

August, 1953

SOAP and Sanitary Chemicals

In this issue...

Is product research the answer
to today's sagging soap sales?

* * *

New industries spark sanitary
supply market in Puerto Rico

* * *

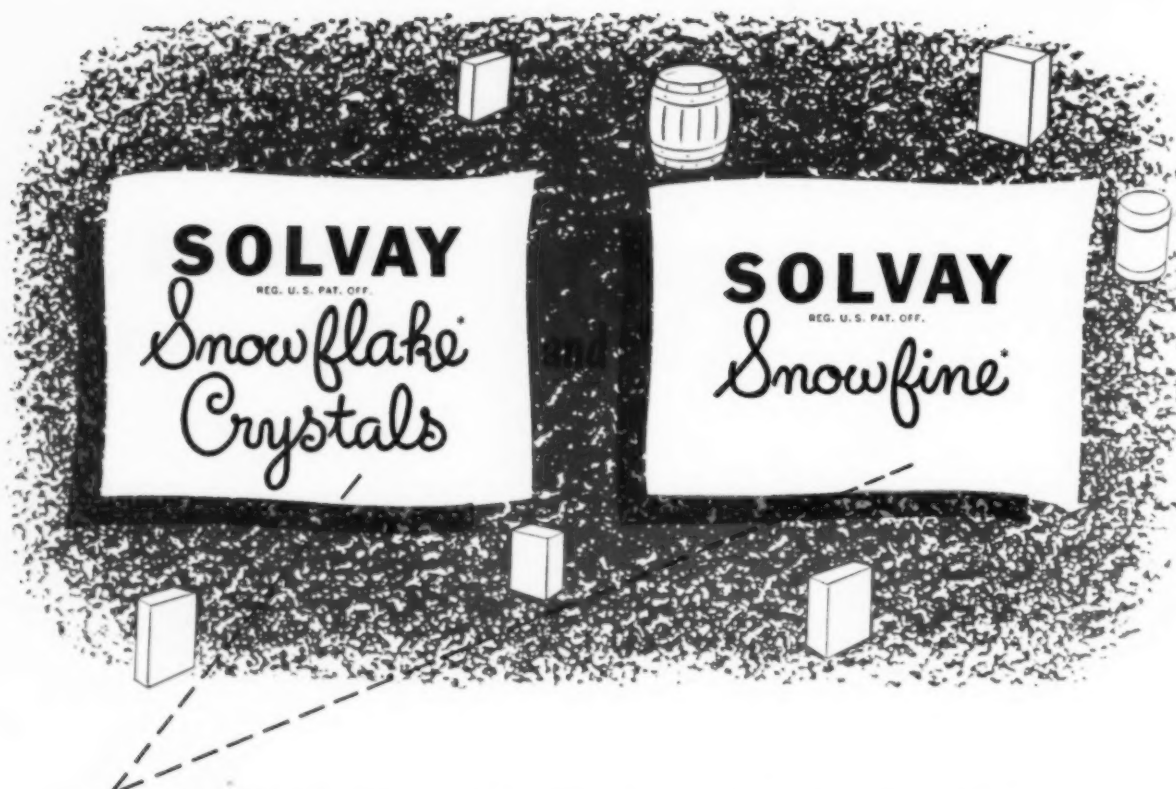
How good are para and naphtha-
lene as clothes moth fumigants?

* * *

Trend in Christmas gift soaps
is to items that sell all year

Cover photo . . . Cudahy's new "Old Dutch" cleanser is newest fillip to fast changing scouring powder market. Sanitizing and deodorizing agents have been added. Product also boasts sudsing action, yellow color, new label design.





the Superior Sesquicarbonate of Soda that will

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Compounders and Repackers will find that either of these quality Solvay products—Snowflake Crystals or Snowfine—is an ideal component of cleaning compounds. This true sesquicarbonate of soda is available in two grades, to fit the granulation of your product—crystals (Snowflake Crystals) and fines (Snowfine)—and offers you all these advantages:

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Sodium Nitrite • Sodium Bicarbonate • Snowflake® Crystals • Para-dichlorobenzene • Ortho-dichlorobenzene • Monochlorobenzene • Ammonium Chloride

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Candy's **NEW NAME** for

the new floor treatment for

Increased Anti-Slip

Greater Durability

Lower Floor Maintenance Cost

2 GRADES

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Originally offered as CANDY'S SUPREME
Special WR-AS in July 1950

CAND-DOX #BB

Originally offered as BRIGHT BEAUTY
Special WR-AS in June 1951

CAND-DOX #CS and BB are made in any total
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CAND-DOX #CS is slightly more durable and
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Floor treatments represent the finest products available where a higher than minimum recognized standard of anti-slip quality is desired. The resultant films from the use of these products are **HARD**, non-tacky, and will withstand wear, dirt and discoloring traffic marks.

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WATER RESISTANCE and **REMOVABILITY** in proper balance are very important in every maintenance program. In the development of the wax emulsion bases that go into CAND-DOX floor treatments, the important all-around high qualities of our (Standard) CANDY'S SUPREME, BRIGHT BEAUTY and other well known and accepted waxes were taken into consideration and accomplished in the final CAND-DOX products containing the new bases plus additive.

BEAUTY of floors maintained with CAND-DOX floor treatments, which are both hard and very anti-slip, is no less than remarkable and equal to the lustre for which our products have long been famed. The same buffing can be applied, if desired, and the same gloss will result.

Our policy in regard to use of new additives to our floor waxes has always been clear-cut... if a definite improvement can be accomplished we endeavor to formulate and combine new ingredients in such a way as to conform to our very high standards of product function. These standards in no case are ever sacrificed to climb on any "bandwagon" of sales appeal.

The laboratory work in ours or any organization is very important and the starting point for research and development of new useful products. However, **FIELD TESTING** is the real proof of the real value of any floor treatment. CAND-DOX floor treatments have been thoroughly field tested and are now being sold in quantity by many of our distributors, with success—again proving merit in **FIELD USE**.

** CAND-DOX contains CANDY'S wax emulsion with **LUDOX*** added in such proportion as to fully deliver the usefulness of this additive to floor wax.
*Trademark of E. I. du Pont de Nemours & Co., (Inc.) Reg. U. S. Pat. Off.

CAND-DOX is available for private brand resale and is sold only through distributors except for experimental accounts in Chicago essential to research.

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CANDY'S #640
#CS CAND-DOX
#BB CAND-DOX

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Candy & Company, Inc.
2515 W. 35th ST., CHICAGO



SOAP and Sanitary Chemicals

Volume XXIX, No. 8

August, 1953

CONTENTS

In Brief—As the Editor Sees It.....	39
As the Reader Sees It.....	41
The Why of Product Research.....	42
By J. A. Straka	
Soaps for Christmas.....	45
Evaluation of Surfactants.....	48
By J. E. Smallwood and Stanley L. Elsler	
Jobbing South of the Border.....	52
By Albert S. Keshen	
New Products Pictures.....	54
Colorimetric Determination of EDTA in.....	
Soaps and Detergents.....	81
By Albert Darbey	
Penolic Disinfectants.....	129
By Dr. J. L. Boyle	
Baird & McGuire, Inc. of Holbrook.....	132
Para and Naphtha as Closet Fumigants.....	134
By Dr. John W. Arnold	
New Developments in Compression Sprayers.....	143
By Frederick W. Knipe	
New Aerosol Filling Unit.....	149
Bids and Awards.....	75
New Trade Marks.....	77
Production Clinic.....	89
Products and Processes.....	93
New Patents.....	95
Soap Plant Observer.....	97
Sanitary Products Section.....	103
Classified Advertising.....	175
Advertisers' Index.....	183

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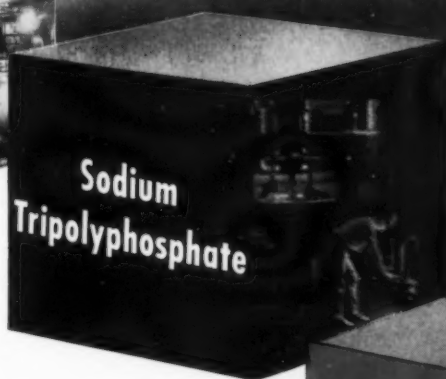
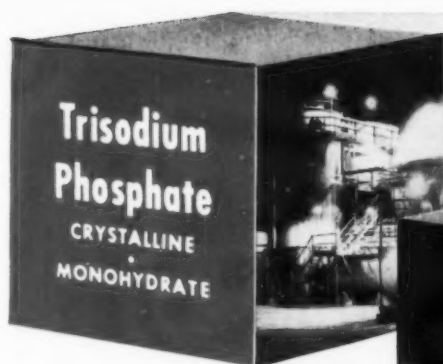
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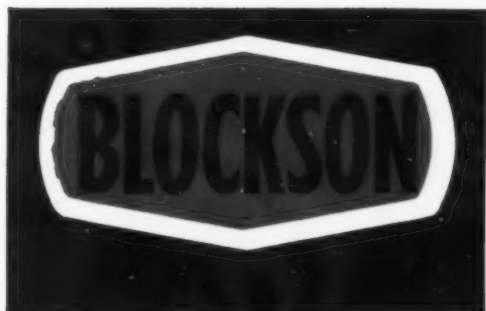
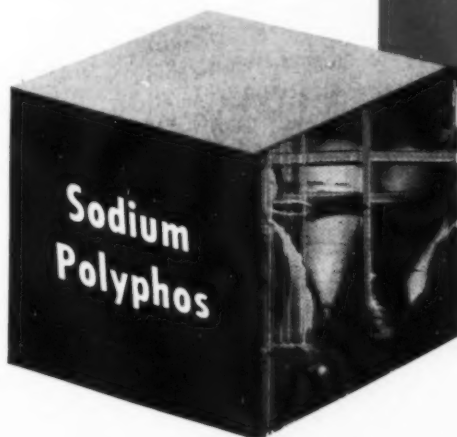
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KNOLAR SOAPS



Sodium Phosphates

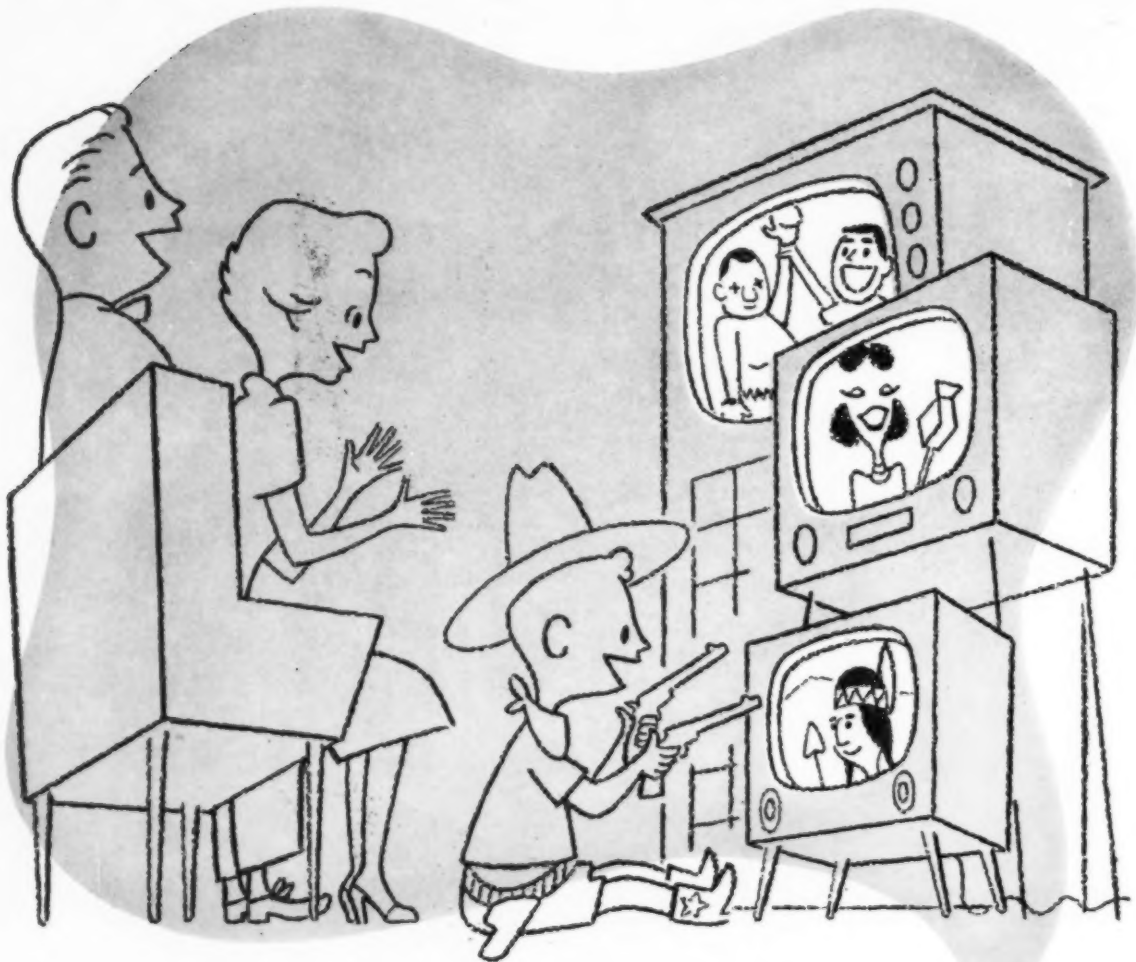
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AUGUST, 1953



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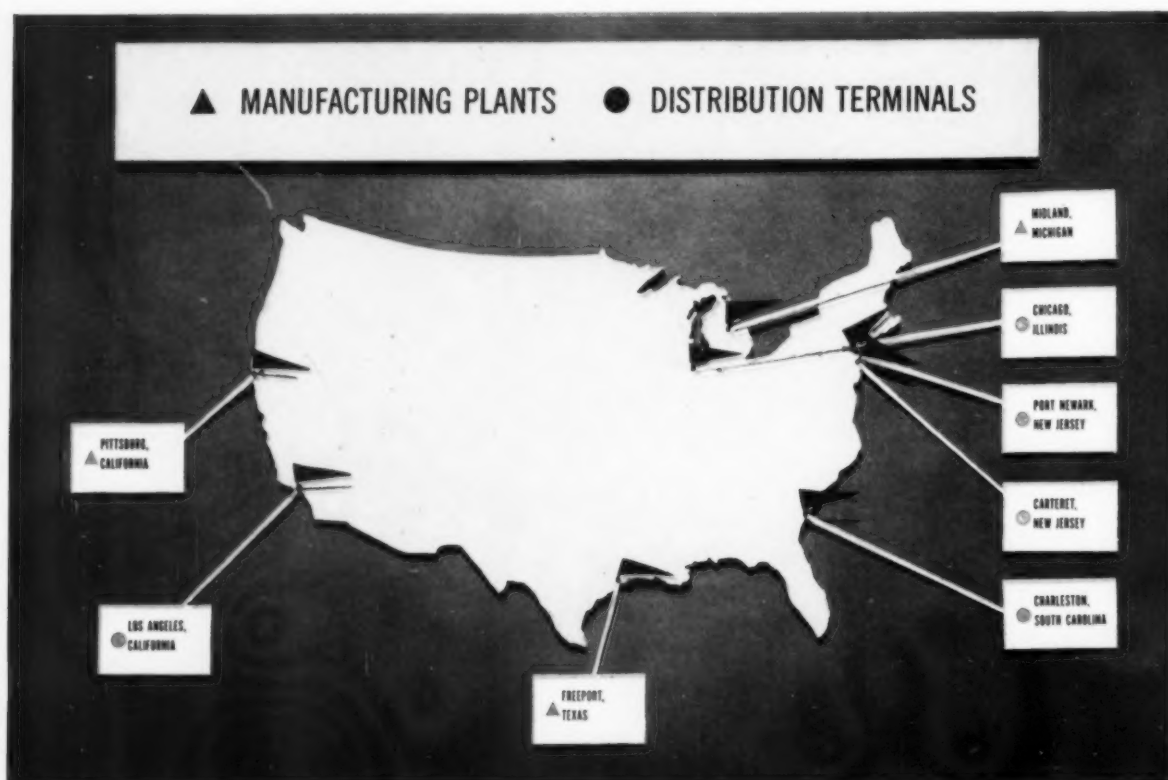


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AUGUST, 1953



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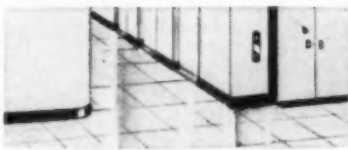
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Sure Step Wax adds new beauty and color to your office floors.



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Sure Step Wax outmodes all ordinary anti-slip floor waxes, with their dull, gummy and tacky surfaces. Sure Step Wax has been discovered to definitely do a better job because it combines safety plus long-lasting, wearing qualities. Requires only 20 minutes to dry to a mirror-like finish. Sure Step Wax will last longer, costs less to clean and maintain.

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stops the eye . . . starts the sale
pack to attract in maryland blue

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In a clear liquid formula—"DUPONOL" EP gives you:
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. . . excellent foaming characteristics—even in hardest
water . . . a light color, stable to heat and light.

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DU PONT *Duponol* **EP**
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DETERGENT



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

After Closing...

Lachner Succeeds Reilly

Marshall S. Lachner has been appointed manager of the Soap and Industrial Sales Departments of Col-



MARSHALL S. LACHNER

gate-Palmolive-Peet Company, it was announced July 30 by E. H. Little, chairman of the board. As department head, Mr. Lachner succeeds James A. Reilly, who died on July 24.

Mr. Lachner joined the company in 1938 as a display man and served successively as retail salesman, district supervisor, divisional supervisor and district manager in the Jersey City and Chicago Districts. In 1949 he was named divisional manager of the Berkeley (California) division, a position he held until 1951 when he joined the home office organization in Jersey City as assistant to Mr. Reilly.

Lever Denies Sale Rumor

Lever Brothers Co., New York, issued a flat denial, Aug. 6, that the company is for sale. The Lever statement was made in answer to a rumor published in *Tide*, advertising, selling and promotion trade magazine, to the effect that the American Lever firm "is about to be sold to some major food firm." The *Tide* article said that General Mills and General Foods were mentioned as possible buyers. The action of General Foods in seeking stockholder approval to increase the number

of stock shares from 6,000,000 to 15,000,000 was cited in the report as evidence supporting the rumor of General Foods' interest.

New P&G Home Building

Plans to construct a new headquarters for its world-wide operations were announced recently by Procter & Gamble Co., Cincinnati. The company said it is purchasing the American Red Cross headquarters at 321 E. Sixth St. That property, along with the P&G owned Graydon Bldg. at Sixth and Sycamore Sts., and an adjacent parking lot on Sycamore will be the site of the new structure. The company has not revealed the cost of the acquired land or when it hopes to break ground.

The Red Cross will continue to occupy the 150-year-old former convent until its new home is completed. At present, P&G maintains its 1,000-person general offices in the Gwynne Bldg., at Sixth and Main Sts. The company acquired the building in 1935 and occupies the entire 12 floors.

Hoyer Joins Baird

David G. Hoyer, formerly sales manager of the foreign department of Pittsburgh Coke & Chemical Co., Pittsburgh, recently was named sales manager of the agricultural chemical department of J. M. Baird Co., New York. Prior to joining Pittsburgh Coke & Chemical, Mr. Hoyer was with John Powell & Co., New York, for many years.

D-Y Names Finnerty

Logan Finnerty has recently been appointed eastern zone manager for Davies-Young Soap Co., Dayton, O., according to announcement by Howard G. Young, vice-president of the company. Mr. Finnerty will act as zone manager for the firm's soap and wax division for the Eastern Seaboard.

He has had widespread experience in the sanitary supply field and

will work with jobbers and their salesmen. His assignment will include the establishing of new distributors for Davies-Young Buckeye products.

Mr. Finnerty was formerly with Fuld Brothers Co., Baltimore, and for the past year has acted as a consultant on merchandising sanitary supplies. He is a graduate of Creighton University, Omaha.



LOGAN FINNERTY

Rebak Joins Grace

The appointment of Vincent L. Rebak as New York district sales manager for Grace Chemical Co., New York, was announced recently. Previously Mr. Rebak was assistant to the vice-president of Dodge & Olcott, Inc., New York, and earlier had been a sales representative and assistant to the sales manager of Heyden Chemical Corp., New York.

Geiger Returns to East

Albert C. Geiger, formerly associated with Gillespie-Rogers-Pyatt Co., New York, and Mantrose Corp., Brooklyn, and one of the pioneer shellac chemists in the United States, recently returned to Valley Stream, L. I., N. Y. For the past 12 years Mr. Geiger had lived in California. He has been suffering from arthritis. He was one of the first to combine liquid chlorine and caustic soda solution in a gas absorption tower to make a stable bleaching solution for shellac. The process, which was discovered by Mr. Geiger about 30 years ago is still used in the shellac industry. Mr. Geiger is making his home at 129 Wilson Road, Valley Stream.

d-Con Wins Partial Appeal

The Federal Trade Commission announced recently it has granted in part an appeal of d-Con Co., Chicago, from a hearing examiner's ruling that it must stop representing that its rat poison, "d-Con" with warfarin, is safe to use. The Commission said it found that the product is not a violent poison. It would have to be taken repeatedly in large doses over a period of several days to endanger certain animals or humans. Handled carefully in accordance with the directions on the package by persons aware that it is poisonous, "d-Con" would not constitute any serious danger to humans, the Commission concluded.

The remaining parts of the hearing examiner's order were affirmed by the Commission. Under its order the company must stop representing that either of its products, "d-Con" or "d-Con House Prufe," is safe or may be used without danger to human beings or domestic or farm animals, unless qualified by the words "when used as directed" or similar meaning. The firm must stop claiming that either of the preparations contains a special attractant that is more successful or alluring than all other rodenticide baits or regular feed; or that either of the preparations will eliminate all afterodors usually associated with the use of rodenticides. Also, the company may not state that either of the products is the only rodenticide on the market for mice control that contains warfarin; or that "d-Con" was the subject of a *Reader's Digest* article.

No Action on Miller Bill

Congressional adjournment early this month forced postponement of final action on legislation to increase controls over the use of pesticides. The Miller Bill (H.R. 4277), designed to expedite the establishment by the Food and Drug Administration of tolerances for pesticides, had been the subject of hearings being conducted by the House Interstate Commerce Committee, just prior to adjournment. The bill, which would set specific limits on the amount of pesticides which may be found on foods transported across state lines, was proposed by Rep. A. L.

Miller, Republican from Nebraska. It had the support of the pesticide industry and farm groups. The Food and Drug Administration thought it unworkable and Mrs. Oveta Culp Hobby, Secretary of the Department of Health, Education and Welfare, raised 10 specific objections to the bill. Agreement on the legislation by the House Interstate Commerce Committee was reported near just before Congress adjourned.

Earlier the committee announced that it was indefinitely postponing its scheduled hearings on Delaney bills (H.R. 2244 and H.R. 2245) relating to chemicals in cosmetics and foods. Hearings on the other Miller bill, (H.R. 4901) covering chemical additives were likewise postponed, because of the lateness of the session to be considering such controversial bills.

Fraley Leaves Diamond

Fred W. Fraley retired July 1 as a vice-president of Diamond Alkali Co., Cleveland, the company announced recently. He also resigned as a director of the company. His career with Diamond began in 1928 as manager of its Southwest sales office in Houston. In 1943 he became vice-president of sales, and has served as a director since 1947. He was also a director and former vice-president of The Chlorine Institute.

New Post to Shackleford

Francis L. Shackelford, Jr., sales manager of the "Freon" propellents section of the organic chemicals department of E. I. du Pont de Nemours & Co., Wilmington, Del., since, July, 1950, was recently named assistant sales development manager for the rubber chemicals division of the organic chemicals department. Thomas D. Johnson, Sr., who has been serving as manager of the auxiliary section of the chemicals division, has been named to replace Mr. Shackelford as manager of "Freon" fluorinated hydrocarbon propellents, effective Aug. 1. Mr. Shackelford has been with du Pont since 1939, when he joined the organic chemicals department. Mr. Johnson joined du Pont's organic chemicals department in 1940.

Robert S. Lippoth Dies

Robert S. Lippoth, 41, vice-president and copy chief of the House of J. Hayden Twiss, New York, died in Charlotte, Mich., recently. He had been associated with the Twiss agency since 1933, excepting for three years, when he was in the armed services of the U. S. He was a graduate of Columbia University, where he was a varsity football player.

U.S.D.A. Post to Reagan

Eugene P. Reagan has been appointed assistant chief in charge of regulatory activities of the Bureau of Entomology and Plant Quarantine, U. S. Dept. of Agriculture, it was announced recently by Avery S. Hoyt, Bureau Chief. Mr. Reagan fills a post vacant since the late S. A. Rohwer transferred from the bureau in Dec. 1950. Mr. Reagan has been a plant quarantine officer of the U.S.D.A. since 1929. Since 1945 he has been located in Washington, D. C., where he served the bureau as assistant leader of the Division of Plant Quarantine.

Heads New Lever Setup

M. J. Roche has been named general manager of its new promotion and services division, it was announced August 5, by Lever Brothers Co., New York. The new unit is designed to provide promotion as well as media programming services for the four marketing divisions of the company: Lever, Pepsodent, Harriet Hubbard Ayer, Inc. and Good Luck. It represents a consolidation of the activities of two former divisions: general advertising service and promotion.

Edward Trippe Dies

Edward Trippe of Woodbury, N. J., who was in the essential oil business in New York and Philadelphia before his retirement in 1951, died recently in Stanford University Hospital at Palo Alto, Calif. Surviving are his widow, Mrs. Alice Pattison Trippe; three sons, Edward R., Augustus S. and James; two daughters, a brother and a sister. At one time Mr. Trippe had been with P. R. Dreyer & Co., New York, and was a representative of Ungerer & Co., New York.

Launches New "Old Dutch" Cleanser

A NEW "Old Dutch" scouring cleanser that sanitizes and deodorizes as it cleans is being distributed nationally by Cudahy Packing Co., Omaha. The firm, which recently introduced the new product in the Chicago area with full-page advertisements in the *Chicago Tribune* and the *Milwaukee Journal*, has announced it is set to launch an all-out promotion campaign boosting the germicidal qualities of "Old Dutch" some time in September. By that time, the company feels, dealers will have disposed of sufficient old style "Old Dutch" and will have the new product on their shelves.

Several new ingredients have been added to "Old Dutch's" formula in order to qualify it as a new product. The cleaner now comes in a golden color. Seven out of ten women who have bought the product indicated that they liked its new tint, according to the maker. In addition, the product now contains .5 per cent sodium perborate, as a germicidal ingredient which is the basis for the claim, splashed in large letters on the front on the can, that the product "sanitizes." Armour Laboratories of Chicago, checked the Cudahy claims for the new "Old Dutch."

What's more, the product is said to deodorize as it cleans. Claims are that "Old Dutch," when sprinkled on the user's hands during washing, removes all odors, leaving in its place a "fresh, clean, pleasant aroma." Housewives who have tested it daily for months have found it doesn't harm hands, Cudahy claims.

Another new ingredient in the formula peps up its cleaning action, produces lively sudsing action that "floats away" grease and residue more quickly than formerly. Cudahy lists all the ingredients on the label of revamped "Old Dutch" as follows: Trisodium phosphate crystalline 3 per cent, dodecyl benzene sodium sulfonate 2.00 per cent, nonyl benzene sodium sulfonate .85 per cent, sodium perborate .5 per cent; inert (moisture abrasives and cleaning ingredients) 93.65

per cent. In addition, the cleanser contains "activated seismotite."

The product is packed in a can with a bright new label. A green band around the can's base bears the product's signature in bold yellow reverse. Included on the new label are the product's ingredients and directions for use to comply with labeling requirements of the Insecticide, Rodenticide and Fungicide Act of 1947, which is enforced by the Department of Agriculture. Such ingredient labeling is required for germicides but never before has been used for powdered cleansers. However, "Dial" soap, made by Armour & Co., Chicago, and which contains "G-11" brand hexachlorophene, is so labeled.

"Old Dutch" is unique among cleansers in that it comes under the regulations of the Packers & Stockyards Act of 1921. As a result of that act any product made by a packer comes under the jurisdiction of the U. S. Dept. of Agriculture, which oversees the product's labeling, advertising claims and trade practices. "Ajax" made by Colgate-Palmolive-Peet Co., Jersey City, N. J. and "Bab-O" by B. T. Babbitt, Inc., Albany, the Federal Trade Commission. In this N. Y., are under the surveillance of highly competitive field, the three big scouring cleanser producers are constantly vying for top position in the market. Consequently, "Ajax" and "Bab-O" are disturbed by "Old Dutch's" peculiar exemption from FTC regulation.

The makers of "Ajax" and "Bab-O" claim that the legal situation is advantageous for Cudahy and permits "Old Dutch" to make more "liberal" advertising claims. These charges are strenuously denied by Cudahy's officials who show the severe regulations imposed on them by the Department of Agriculture as proof that advertising claims for new "Old Dutch" are back by facts.

Cudahy was compelled, for competitive reasons, to introduce a new "Old Dutch." Earlier, "Ajax" was reformulated with a synthetic deterg-

ent to produce a foaming action. At the same time, a pine odor was added, and proved to be very popular with housewives. These two innovations, were the first in a series of steps taken recently to shake the product thinking of manufacturers in the scouring cleanser market. As a result, "Ajax" ranks first in popularity in most consumer brand preference surveys. As a matter of fact, some informed trade sources say that percentagewise "Ajax" has done better than phenomenally successful "Tide" in the heavy duty household synthetic detergent class. Babbitt's "Bab-O" stung by the success of "Ajax" has been revamped and is fighting to regain some of the sales ground it gave up to "Ajax."

The new "Old Dutch," said to be first among the scouring cleansers to add color, may eventually get some competition from a "Blueized" kitchen cleaner. A patent on the blue cleanser was filed recently by Alfred C. Houser, an account executive with Tim Morrow Advertising Agency, Chicago. Mr. Houser's cleanser is said to be designed to whiten and brighten porcelain, enamel and painted surfaces in the same manner as blueing affects clothes. This would seem to indicate the presence of one of the blue fluorescent dye-stuffs.

Cudahy recently moved its advertising account from Grant Advertising to Young & Rubicam, who are planning to give the germicidal qualities of "Old Dutch" a star billing in the coming advertising campaign. Results are as yet unclear on how well buyers really like the new "Old Dutch" in the Chicago and Milwaukee markets. Though sales shot up during its introduction, a large percentage is certainly due to the simultaneous introductory offer of a third can for only two cents when two other cans were purchased at the regular price. Only after several months, when the housewife has used up her current supply of "Old Dutch" will Cudahy know whether its new product has resale pull.

Meanwhile, Cudahy announces that its new type of cleanser, with the sanitizing — deodorizing ingredients and its new color are firsts in the field,

placing the product "years ahead of all others." The other cleanser makers watch anxiously, wondering how long it will be before they are forced to add a germicidal ingredient, too.

New Toilet Soap Spec.

A proposed amendment to Interim Federal Specification P-S-0624 (GSA-FSS), Soap, Toilet, Liquid and Paste is being circulated to the trade for comments, the General Services Administration, Federal Supply Service, Washington 25, D. C., announced recently. GSA-FSS is also requesting manufacturers to submit for practical tests of representative toilet soaps one quart samples with the actual "compositional analysis." Samples are to be mailed to Standards Division, General Services Administration, Room 7229, 18th and F. Sts., N.W., Washington 25, D. C. F. J. Frattali, technical assistant, Specifications Branch, Standards Division, signed the covering letter accompanying the proposed amendment, text of which follows:

PROPOSED AMENDMENT OF INTERIM FEDERAL SPECIFICATION P-S-00624 (GSA-FSS)

SOAP, TOILET, LIQUID AND PASTE

Delete 3.1.1 and 3.1.2 and substitute:

3.1.1 *Type I, liquid soap.*—The material shall be a clear solution of potash soap in water. The soap shall be produced by the saponification of either vegetable oils or distilled vegetable-oil fatty acids with potash.

3.1.2 *Type II, paste soap.*—The material shall be a firm gel or paste of potash soap in water. The soap shall be produced by the saponification of

either vegetable oils or distilled vegetable-oil fatty acids with potash.

Delete table I of 3.2 and substitute:

Colgate Earnings Up 35%

Net income of Colgate-Palmolive-Peet Co., Jersey City, N. J., for the first six months of 1953 was \$5,084,000, or \$2.10 per share of common stock, as compared with \$3,719,000 or \$1.59 per share for the first half of 1952. E. H. Little, chairman of the board, announced recently. For the three months ended June 30, 1953, net income equaled \$1,809,000 or 73 cents per share as compared with \$1,470,000 or 62 cents per share in the preceding year.

Domestic sales of \$134,200,000 for the first half of 1953 represented an increase of \$10,895,000 over the same period of 1952. Sales for the second quarter were \$64,194,000, \$4,291,000 more than in the second quarter of 1952. World-wide sales, including sales of foreign subsidiaries not consolidated, totaled \$206,844,000 for the first six months and \$101,624,000 for the second quarter of 1953. In the corresponding periods of 1952, world-wide sales were \$188,766,000 and \$93,184,000, respectively.

Dividend income from foreign subsidiaries of \$1,520,000 is included in the net income for the first half of 1953, as compared with \$459,000 in 1952. Actual earnings of foreign subsidiaries for the six-month periods were \$4,307,000 in 1953 and \$2,581,000 in 1952.

Table I. Composition

	Type I		Type II	
	Minimum	Maximum	Minimum	Maximum
Anhydrous soap (calculated as potash soap) percent	15	..	60	..
Free alkali (calculated as potassium hydroxide, KOH) percent	..	0.05	..	0.2
Free acid (calculated as oleic acid) percent	..	0.1	..	0.2
Alkaline salts (calculated as potassium carbonate, K ₂ CO ₃) percent	..	0.2	..	0.3
Matter insoluble in distilled water, percent	..	0.1	..	0.2
Matter insoluble in alcohol, percent	..	0.5	..	1.0
Chloride (calculated as potassium chloride, KCl) percent	..	0.3	..	0.5
Sodium compounds (calculated as sodium oxide, Na ₂ O) percent	..	0.5	..	1.0
Sulfates, percent	..	Trace	..	Trace
Resin, percent	..	None	..	None
Sugar, percent	..	None	..	None
Iodine number (WIJS) of mixed fatty acids derived from the soap	7	35	7	35
Titer of mixed fatty acids derived from the soap, °C	15	28	15	28
Acid number of mixed fatty acids derived from the soap	230	270	230	270

NACA Meets Sept. 9-11

Program plans for the 20th anniversary meeting of the National Agricultural Chemicals Assn., to be held at the Essex and Sussex Hotel, Spring Lake, N. J., Sept. 9-11, were announced recently by Lea S. Hitchner, secretary. Dr. C. C. Compton of the Julius Hyman Division of Shell Chemical Corp., Denver; Charles P. Harding, general manager of the manufacturing department of Virginia-Carolina Chemical Co., Richmond; Dr. Rodney C. Berry, state chemist for the Virginia Department of Agriculture; Eugene Ordas, head of the product development division of Velsicol Corp., Chicago, and Dr. M. D. Ferra, head of the department of entomology of Clemson College, Clemson, S. C., will participate in a panel discussion on Sept. 10.

Dr. Brink Joins Reilly

Appointment of Dr. Joseph Brink, assistant professor of chemical engineering at Purdue University, for a chemical engineering design assignment was announced recently by Reilly Tar & Chemical Corp., Indianapolis. At the Reilly Laboratories, Dr. Brink is assisting the research and development group on design problems related to fractional distillation. Dr. Brink resumes his teaching duties in the fall.

Swan-Finch New Division

Acquisition of Brown Chemicals, 15 Moore St., New York, as its new chemicals division, was announced recently by Swan-Finch Co., New York. The company has dropped the former name of Brown Chemicals, and has set up offices for the division at 205 East 42nd St., New York.

Iowa Soap Co. Merger

Reorganization of Iowa Soap Co., Burlington, Ia., under terms of a plan submitted by a company making castings primarily for jet planes, was approved Aug. 6, by Federal District Judge William F. Riley in Des Moines. Misco Precision Casting Co., a subsidiary of Michigan Steel Casting Co., will be merged with Iowa Soap Co. as the successor organization.

it's here..



*designed
for your
needs!*

Orvus AB Granules was designed specifically to meet the needs of the converter. Here are some of the important characteristics of this efficient synthetic detergent, wetting agent and surfactant.

Orvus

40% TYPE NEUTRAL ALKYL ARYL SULFONATE
Superior in appearance and performance to other 40% type products.

Orvus

A "BLOWN" PRODUCT IN UNIQUE BEAD FORM
The bead is similar in structure to a sponge rather than to the more common hollow spheres. This minimizes mixing breakage and dusting.

Orvus

FREE FLOWING AND DUSTLESS
Pours freely with no heavy dusting. Pleasant and easy to handle.

Orvus

NON GUMMY
Does not gum mechanical mixers even on hot humid days. Helps produce better mixtures with less time and labor.

Orvus

MIXES READILY
Blends easily, resulting in attractive uniform products.

Orvus

NON-IRRITATING
Gentle to the skin—a characteristic both your employees and your customers will appreciate.



Procter & Gamble

For information regarding specific applications and formulas for Orvus AB Granules, mail a postcard to
BULK SOAP SALES DEPT. P.O. BOX 599 • CINCINNATI, OHIO

AUGUST, 1953

**CASE
HISTORY**

Another tough problem solved by an Emery Product

**How
Emersol®
Oleic Acid
Took Offensive
Odor Out of
Carbon Paper**



Because of the relatively large surface area exposed in carbon paper, the development of rancidity in the fatty component is not unusual. Such was the case with this well-known manufacturer. But, when Emersol 233 L.L.Elaine (Low-Linoleic) was substituted for the ordinary oleic acid in his formulation, odor complaints were reduced appreciably.

Whatever product you make, carbon paper or entirely unrelated products, the outstanding resistance to rancidity, color stability and oxidation stability of Emersol Oleic Acids can make your product better, stay better longer. This greater consumer appeal will make them readily accepted...easier to sell. Since they cost no more than competitive grades, next time...everytime...it will pay you to buy Emersol Elaines.

Do you use a Double-Distilled Oleic Acid?

Then you will be interested in this data showing the outstanding color stability of Emersol 221 as compared to competitive grades. The extra value of Emersol 233 is shown also.

To illustrate this fact in terms of end-product quality, actual propyl oleate esters were prepared under exacting conditions using a strong acid catalyst. The following colors were obtained after neutralization of the catalyst and filtering.

Propyl Oleates made with:	Lovibond Color (5¼" cell)
Emersol 221 Low Titer White Elaine	50 R
Competitive Double-Dist. Oleic "A"	60 R
Competitive Double-Dist. Oleic "B"	60 R
Competitive Double-Dist. Oleic "C" Very dark	
Emersol 233 L.L. Elaine	24 R



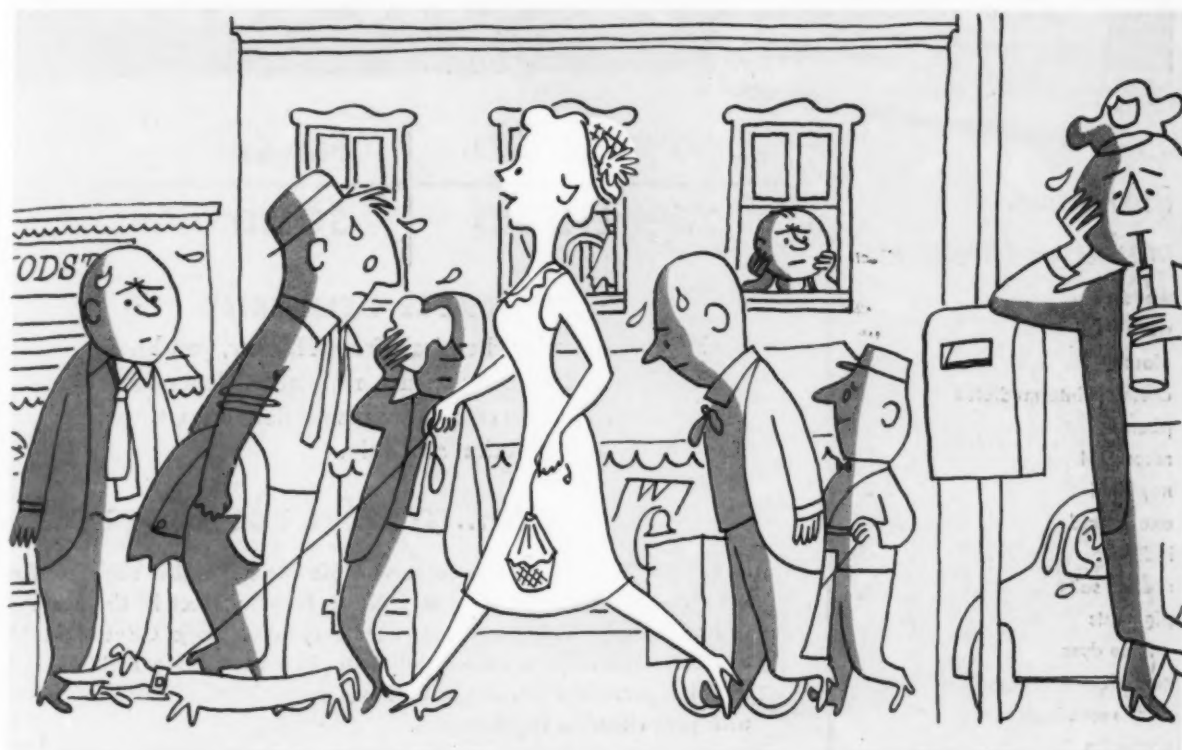
Fatty Acids & Derivatives
Plastolein Plasticizers
Twitchell Oils, Emulsifiers

Emery Industries, Inc., Carew Tower, Cincinnati 2, Ohio

Export: 5035 RCA Bldg., New York 20, New York
New York • Philadelphia • Lowell, Mass. • Chicago • San Francisco
Schibley & Ossmann, Inc., Cleveland • Ecclestone Chemical Co., Detroit
Warehouse stocks also in St. Louis, Buffalo, Baltimore and Los Angeles

SOAP and SANITARY CHEMICALS

When she makes it a rule to look cool



Norda helps

Women are smart in the summer. They are ladies of quality. They find relief from summer sultriness in quality toiletries.

Fine cologne is a summer stand-by. It picks up and perks up her spirits. Even on the most drooping days, cologne keeps her "fresh at four."

A woman knows, too, that summer really tests a perfume. She likes the fine freshness of floral scents. She knows that a summer evening needs a perfume of subtle lightness.

Norda creates fine perfume compounds that are wonderfully right for summer.

They are the basis for outstanding successes among the quality perfumes, colognes, and other toiletries most popular every summer.

Norda was the first ever to tell you, repeatedly, that good scents mean good sales. Send for samples that will convince you of Norda quality.

Norda ESSENTIAL OIL AND CHEMICAL COMPANY, INC.
601 West 26th Street, New York 1, N. Y.



Hooker Chemical Guide
(ONE OF A SERIES)

USE this handy reference to save time
in selecting high quality chemicals.

HOOKER CAUSTIC SODA

**Used in these
products and processes:**

wood pulp
soap
glass
chemical intermediates
phenol
resorcinol
naphthol
oxalic acid
indigo
sodium salts
pigments
aniline dyes
ceramics
pharmaceuticals
cosmetics
viscose rayon
cleaning compounds
reclaiming rubber
mercerizing cotton
reclaiming tin
food processing
reclaiming paper
metal ore refining
bleaching textiles
petroleum refining
dyeing textiles
engraving
printing textiles
lithography
water softening
and many, many others

50% LIQUID

FLAKE

73% LIQUID

SOLID

DEPENDABLE DELIVERIES

When you order chemicals from Hooker, you know that you are dealing with a reputable, dependable supplier. You can count on prompt deliveries, timed to fit your production schedule.

GROWING...TO SERVE YOU BETTER

New Chicago Office—To better serve Midwestern chemical users, Hooker has recently opened an office at 1 North LaSalle Street in the heart of Chicago's Loop. Midwestern users need only call Chicago, CEntral 6-1311, to receive fast shipment from the main plant at Niagara Falls. Hooker technical personnel will also be stationed at the Chicago office to assist you with your chemical requirements.

New plant at Montague, Michigan—In addition to the existing plants at Niagara Falls and Tacoma, Hooker is building a plant at Montague, Michigan which will increase chlorine and caustic soda production by 100,000 tons per year. Construction will be completed in 1953. This plant will further speed deliveries to Midwestern users.

Research and development—Over 100 regular products, and many more research products, have been made available through Hooker's specialized experience in chlorination, hydrogenation, esterification, sulphydration, hydrochlorination, and fluorination. Complete laboratory and pilot plant facilities are ready to serve you.

Products available now—Chlorine, muriatic acid, sodium sulfide, chlorobenzenes, and many other products are available for immediate shipment. For full information, write on your letterhead to *Hooker Electrochemical Company*, Buffalo Avenue and Union St., Niagara Falls, N. Y.

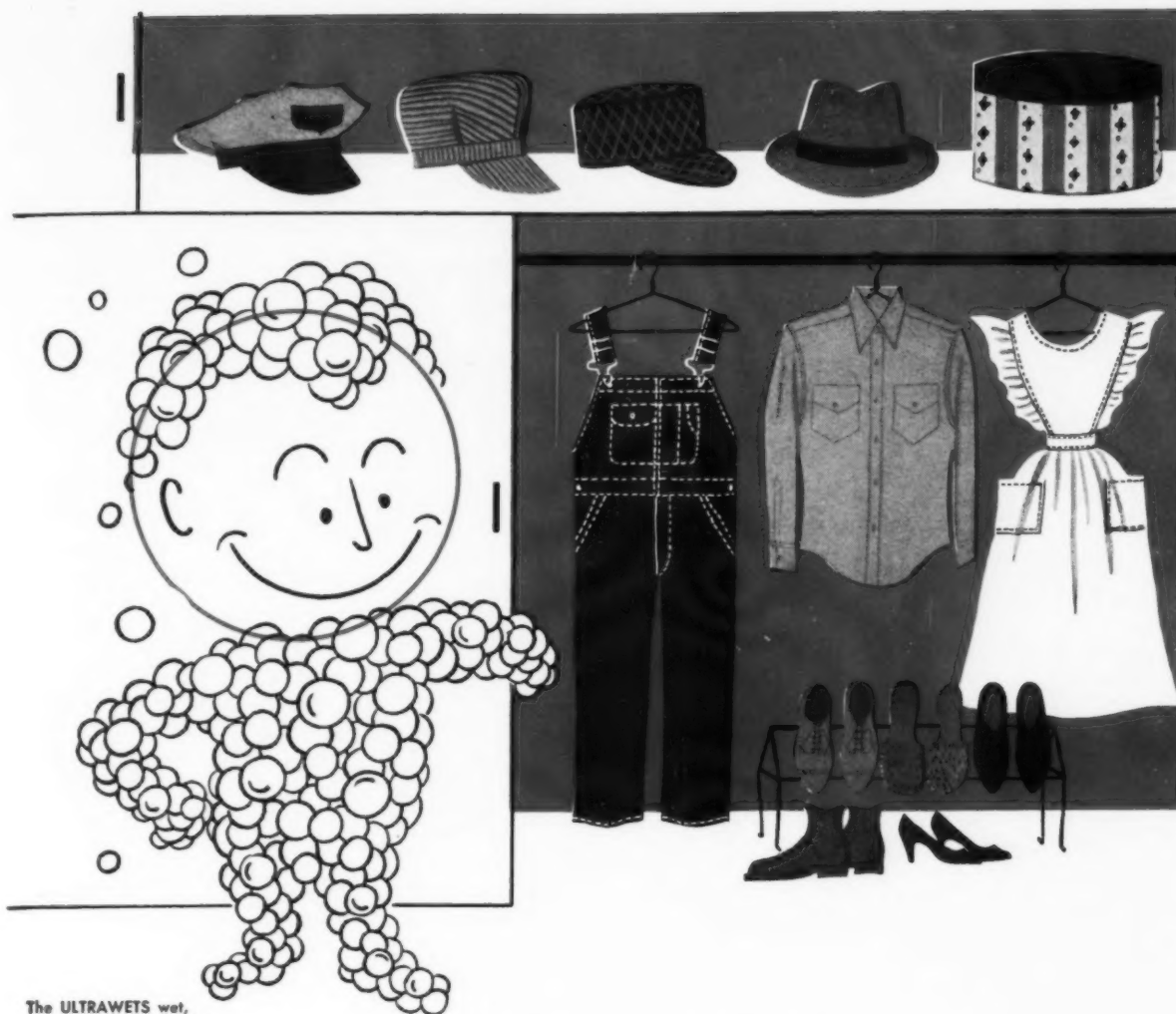
HOOKER ELECTROCHEMICAL COMPANY

NIAGARA FALLS, N. Y. • NEW YORK, N. Y.
TACOMA, WASH. • CHICAGO, ILL. • WILMINGTON, CALIF.

From the Fall of the Earth



2-1242



The ULTRAWETS wet,
penetrate, clean, emulsify

A HARD WORKER IN MANY OUTFITS

Because he can do so many jobs, he's at home in just about any kind of work clothes. And the reason ULTRAWETS perform so well is a good reason for you to use them in your production.

ULTRAWETS are surface-active agents—with superior wetting, penetrating, cleaning, and emulsifying ability. And among their enthusiastic users, ULTRAWETS are known for high quality, chemical

purity, and superior color and odor characteristics.

These advantages are being used profitably by industry in many fields...to cut costs...to improve quality...to boost sales. Investigate ULTRAWETS for use in your production. Complete technical assistance available to help in your application problems. For information, send coupon or write one of the offices listed.

Philadelphia, Providence, Charlotte, Chicago
In the West: L. H. Butcher Co.
In Canada: Naugatuck Chemicals Division of
Dominion Rubber Company, Ltd.



THE ATLANTIC REFINING COMPANY

Dept. E-67, CHEMICAL PRODUCTS SALES
260 S. BROAD ST., PHILA. 1, PA.

Please send information on ULTRAWETS for use
in.....

Name.....

Firm.....

Street.....

City.....State.....



When a customer has ASPHALT TILE PROBLEMS—

A white asphalt tile floor in the Wire Building, Washington, D. C. — one of many places where CHECK-SLIP proved itself a superior floor finish.

Sell CHECK-SLIP, and you both profit!

Many distributors and many maintenance supervisors have found out that CHECK-SLIP takes better care of asphalt tile than any floor finish on the market. CHECK-SLIP gives plenty of anti-slip protection without being soft and tacky. CHECK-SLIP's tough, scuff-resistant finish is easy to apply and easy to maintain, and gives extra economy through long wear.

If you're not familiar with the great sales features and profitability of CHECK-SLIP, why not write to Hollingshead for the full story. Do it today!

CHECK-SLIP contains no wax!

The original water-base anti-slip floor finish for asphalt tile.
Excellent for rubber and vinyl tile.

1, 5, 30, & 55-GAL. SIZES

INDUSTRIAL SECTION

R. M. Hollingshead



CORPORATION

LEADER IN MAINTENANCE CHEMICALS

840 Cooper St., Camden 2, N. J.

Warehouses: Chicago, Dallas, San Francisco

Canadian Offices: Toronto

Starting point for quality products

Quality products begin with quality ingredients. That's why Nialk

Chemicals are used today in so many exacting applications.

for example...

NIALK CAUSTIC SODA: New and improved techniques for the production of toilet and detergent soaps demand caustic soda of highest purity and uniformity. Thanks to modern production methods, plus strict quality control, NIALK Caustic Soda meets this demand, and hence is used today in many of the finest soaps produced.

Superior, dependable performance in applications such as this has earned for NIALK chemicals the confidence of many American industries.

NIAGARA ALKALI COMPANY

60 East 42nd Street, New York 17, New York

Nialk

LIQUID CHLORINE
CAUSTIC POTASH
CARBONATE OF POTASH
PARADICHLOROBENZENE
CAUSTIC SODA
TRICHLORethylene

NIAGATHAL (TETRACHLORO PHTHALIC ANHYDRIDE)



Acid test...

HOW many people really **read** a magazine? That's the acid test of advertising value. Not how many people receive the magazine, but how many read it!

A publisher may dump thousands upon thousands of copies of his magazine into the post-office and they will be delivered to the alleged readers. But who knows how many are read and how many find their resting place in a handy waste basket?

There is, however, a real yardstick to measure which magazines are read and which are not. This is that little quiet and unobtrusive figure which shows up in all Audit Bureau of Circulations (ABC) reports for member magazines,—**the subscription renewal percentage**. In other words, how many readers buy the magazine again and again, year after year.

High sales pressure and fast talking subscription salesmen may sell a subscriber once, but the magazine has to do its own selling the second, third, fourth, etc. year thereafter. Editorial value is the determining factor. So, if a subscriber pays out his good money year after year for a publication, this is pretty good evidence that he reads it.

Hence, SOAP & SANITARY CHEMICALS is always happy when advertisers examine its ABC circulation reports closely.

These have consistently shown a subscription renewal percentage over 80%. Anywhere between 65% and 70% is considered pretty good by circulation people. It is not uncommon for some general magazines to renew as few as 40-45%.

Now, understand we are talking about **paid** circulation magazines. Those magazines which are just sent out willy nilly in large numbers to lists of alleged readers, wholly unsolicited, unordered and free as the air are not even being considered here. Who knows what happens to them after they go in the mail,—that is, if they really go in the mail? We contend that there is and can be no "acid test" applicable to baloney.

If these free magazines have all the circulation they claim and people want and need the books, why don't the publishers sell them to the readers? Glib salesmen may try to answer this question, but the answers we have heard were strictly evasive sales gab. And pretty much the same goes for those "paid circulation" magazines which claim everything, but prove nothing. Neither can they pass a circulation test, acid or otherwise.

Now, to get back to this 80% paid subscription renewal rate of SOAP & SANITARY CHEMICALS,—that's why advertising in the magazine is hard-hitting and effective, gives deep penetration of its market. SOAP & SANITARY CHEMICALS is **read** and the figures, the acid test, prove it.

SOAP & SANITARY CHEMICALS

Published Monthly by

MAC NAIR-DORLAND COMPANY

254 West 31st Street, New York 1

WESTVACO WYOMING'S ON STREAM!



The First New Soda Ash Producer in 35 Years Now Making Cl Shipments

Completed in record time, Westvaco Wyoming is fast approaching capacity output of Soda Ash that meets or exceeds every commercial standard of purity. Physically, Westvaco Wyoming Light Soda Ash is distinguished by its needle-like crystalline structure. Its crystalline nature gives it excellent dispersal properties in water, which results in a rapid dissolution rate. A unique, non-caking material, it has excellent flowability . . . is easier to handle in processing operations.

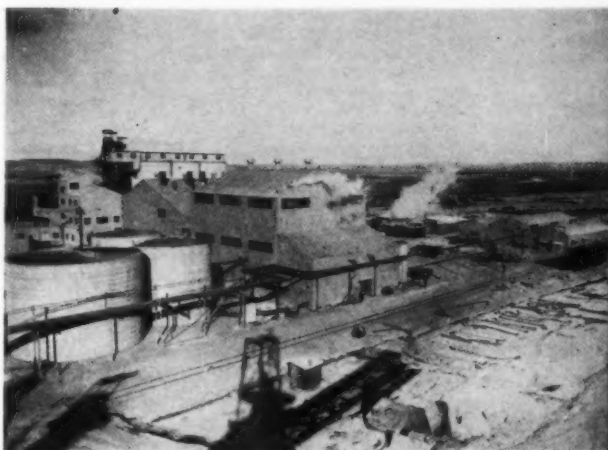
First major alkali production in the Intermountain area, this new plant has an installed capacity of 300,000 tons per year. Standing squarely atop 250 million tons of unbelievably pure trona, it has proved-up reserves sufficient to supply the entire needs of all industry for the next 35 years. Industries now using 30% of all U. S. Soda Ash can be served economically from this location.

Soda Ash users from the Mississippi Valley to the Pacific will immediately benefit by this new nearby source of higher quality Light and Dense Ash. Ultimately, all users everywhere will benefit by the stabilizing influence of this development of a great natural resource. We will be pleased to furnish specifications, samples and prices to prospective users.



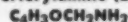
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FOOD MACHINERY AND CHEMICAL CORPORATION
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CSC AMINES

Furfurylamine (2-furanmethylamine)



Highly reactive heterocyclic compound. Undergoes reactions typical of primary amines. Properties suggest application in the synthesis of dyestuffs, resins, pharmaceuticals, rubber, and petroleum additives.

Sp. Gr. at 25/4°C (pure material)	1.0502
Boiling Pt. at 760 mm (pure material)	145-146°C
Melting Pt.	-70°C approx.

2-Hydroxyethyltrimethylammonium bicarbonate (45% aqueous solution) (CH₃)₃N(HCO₃)CH₂CH₂OH

This quaternary ammonium salt appears to offer many possibilities as a latent alkaline catalyst for resins and other processes. Also as an intermediate for preparing choline salts.

Freezing Pt. (45% solution)	-21.3°C
Refractive Index n _D at 25°C (45% solution)	1.3967

CSC ALKANOLAMINES

These compounds readily undergo a wide variety of reactions. They form substituted amides with acids, esters, anhydrides and acyl halides. They also react with other compounds including alkyl halides, aldehydes, ketones, and carbon disulfide.

The alkanolamines provide raw materials for synthesis; emulsifying agents in forms of their soaps, raw materials for textile specialties, drying oils, and synthetic resins.

2-Amino-1-butanol CH ₃ CH ₂ CHNH ₂ CH ₂ OH	
Sp. Gr. at 20/20°C	0.944
Boiling Pt. at 760 mm	178°C
Melting Pt.	-2°C

2-Amino-2-ethyl-1,3-propanediol CH ₂ OH(C ₂ H ₅)(NH ₂)CH ₂ OH	
Sp. Gr. at 20/20°C	1.099
Boiling Pt. at 10 mm	152-153°C
Melting Pt.	37.5-38.5°C

Tris(hydroxymethyl)aminomethane (CH ₂ OH) ₃ CNH ₂	
Boiling Pt. at 10 mm	219-220°C
Melting Pt.	171-172°C

N-Methylglucamine CH₃-NH-CH₂(CHOH)₄-CH₂OH

This is a polyhydroxyamine with properties that suggest application in the synthesis of surface-active agents, pharmaceuticals, dyeing assistants and other fields. It undergoes many reactions typical of secondary amines. It is soluble in water, and pH of a 1% aqueous solution at 25°C is 10.5.

Melting Pt.	128-129°C
------------------	-----------

CSC AMIDES

Dimethylformamide H-CO-N(CH₃)₂

A powerful solvent for a wide variety of materials including nitrocellulose, cellulose acetate, cellulose triacetate and vinylite resins. It exhibits selective solvent properties—its low volatility and stability to heat facilitate easy, low-loss recovery. It possesses outstanding solvent properties for many common gases.

Sp. Gr. at 25/4°C	0.9445
Boiling Pt. at 760 mm	153°C
Melting Pt.	-61.0°C

CSC CHLORONITRO-PARAFFINS

This versatile group comprises stable liquids miscible with most organic solvents, including the lower alcohols, glycols, esters, ethers, petroleum hydrocarbons, mineral oils, and vegetable oils. The chloronitroparaaffins are excellent as solvents for fats and waxes and as anti-gelling agents in certain types of rubber cement.

APPLY HERE FOR 22 UNUSUAL OPPORTUNITIES

Here are 22 CSC new-horizon chemicals which might help improve your products or processes and your market opportunities. They bear evaluating. Our Market Development team is prepared to work with you in developing these for your profitable use. Write today on company letterhead for technical data sheets and samples.

Available Now in Experimental Quantities

MARKET DEVELOPMENT DEPARTMENT F COMMERCIAL SOLVENTS CORPORATION

260 MADISON AVE., NEW YORK 16, N. Y.

One of this group 1,1-dichloro-1-nitroethane is a powerful fumigant for insect pests attacking stored fur, tobacco, and a variety of food-stuffs.

1-Chloro-1-nitropropane CH ₃ CH ₂ CHClNO ₂	
Sp. Gr. at 20/20°C	1.209
Distillation Range (90%)	139.5-143.3°C
2-Chloro-2-nitropropane CH ₃ CClNO ₂ CH ₃	
Sp. Gr. at 20/20°C	1.193
Distillation Range (90%)	129.0-132.3
1,1-Dichloro-1-nitroethane CH ₃ CCl ₂ NO ₂	
Sp. Gr. at 20/20°C	1.405
Distillation Range (90%)	122.0-125.0°C
1,1-Dichloro-1-nitropropane CH ₃ CH ₂ CCl ₂ NO ₂	
Sp. Gr. at 20/20°C	1.314
Distillation Range (90%)	141.0-143.6°C

CSC NITROHYDROXY COMPOUNDS

Of particular interest in chemical synthesis. One compound of this group has shown usefulness as a heat sensitizer for rubber latex; another as a high-boiling solvent for zein, cellulose acetate, and oil soluble dyes. They are also useful as mild oxidizing agents.

2-Nitro-1-butanol CH ₃ CH ₂ CHNO ₂ CH ₂ OH	
Boiling Pt. at 10 mm	105°C
Melting Pt.	-47 to -48°C
2-Nitro-2-ethyl-1, 3-propanediol CH ₂ OH(C ₂ H ₅)NO ₂ CH ₂ OH	
Melting Pt.	56-57°C
2-Nitro-2-methyl-1, 3-propanediol CH ₂ OH(C ₂ H ₅)NO ₂ CH ₂ OH	
Melting Pt.	147-149°C
2-Nitro-2-methyl-1-propanol CH ₃ C(CH ₃)NO ₂ CH ₂ OH	
Melting Pt.	90-91°C
Tris(hydroxymethyl)nitromethane (CH ₂ OH) ₃ CNO ₂	
Melting Pt.	165-170°C

CSC POLYSACCHARIDES

Native Dextran 1,6' α-pyranose polymer

Native dextran is currently being evaluated in the fields of food, cosmetics, paper, pharmaceuticals, textiles, and printing. In these applications, it is being tested as a thickening agent to increase viscosity and to aid in suspension of solids.

CSC SURFACE-ACTIVE AGENTS

Alkaterge®-A, Alkaterge®-E, Alkaterge®-T

This group comprises three new substituted oxazolines. They are cationic, oil-soluble surface-active agents similar in structure and properties to the established surface-active agent, Alkaterge-C. The new products should prove valuable as auxiliary emulsification agents, spreading agents, pigment-grinding assistants, defoaming agents and dispersing agents.

Glucaterges®

These additions to the class of non-ionic surface-active agents are prepared from fatty acids and a polyhydroxy amine. They exhibit a unique combination of properties which suggests new possibilities for ideal performance characteristics under a wide range of conditions.

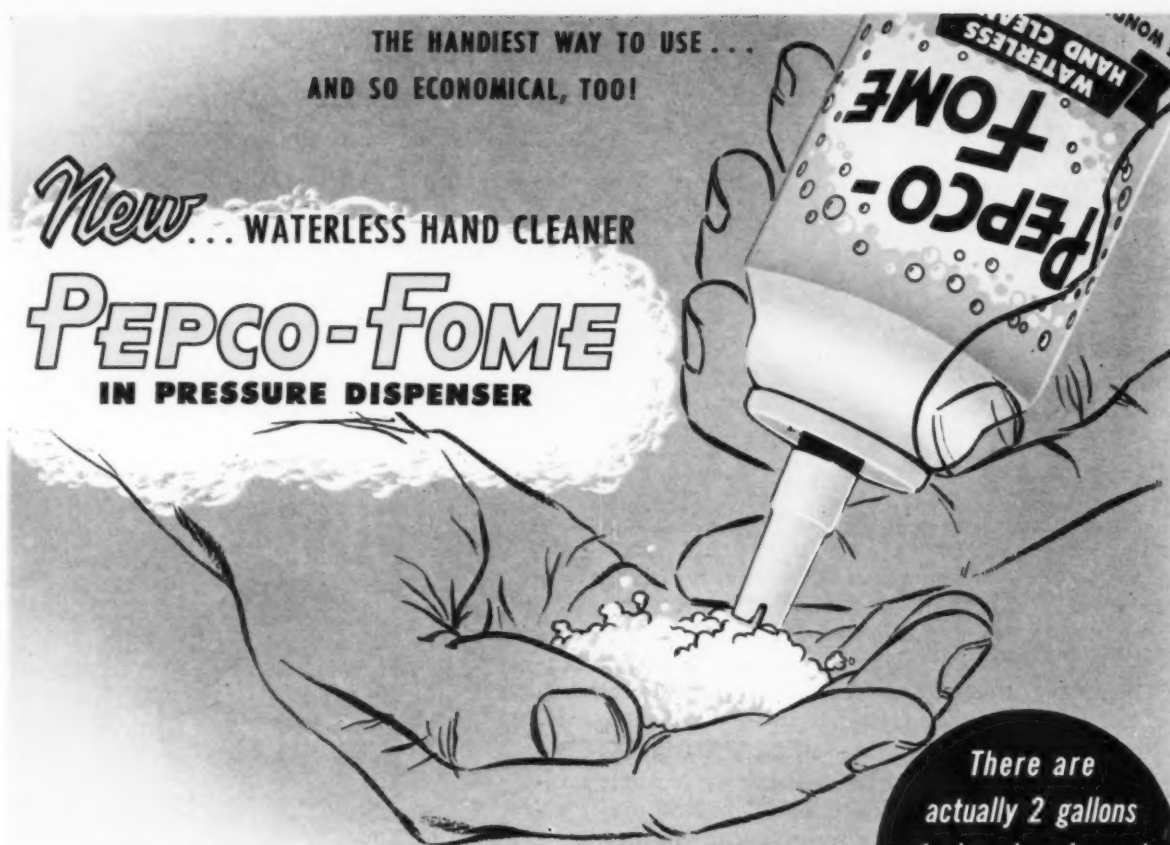
The outstanding foaming properties, excellent detergency, and good "feel" of Glucaterge-12 suggest applications in hair shampoos, shaving creams, and other cosmetic products. Also, this product is an emulsifying agent for hydrocarbon emulsions, and a dispersing agent for carnauba wax. Tests indicate its usefulness as a wool detergent.

Low-foaming detergent Glucaterge-28 possesses characteristics that recommend its use for mechanical dish-washing compounds and other applications where low-foaming properties combined with strong detergency are desirable. It is a useful component of soap products for hard-water areas, and can also be used to advantage in formulating specialty cleaners such as used on woodwork, walls, glass and tile.

SOAP and SANITARY CHEMICALS

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pressure can.

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Lifts dirt by dissolving it. Non-abrasive. Coolest, most soothing cleanser. Contains Lanolin.

Pepco #418

Heavy duty cleanser. Penetrates to remove imbedded grease. Slightly abrasive. Contains Lanolin. Leaves hands soft, fresh. No other powdered hand soap lathers so well . . . cleans so well.

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Liquid shield you put on before the job. PepCOTE washes off easily . . . takes paint, grease, dirt with it . . . they can't cling to hands. This non-toxic coating reduces bacteria buildup and protects against germs.



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As versatile as it is effective, **NEUTRONYX 600** is an extremely dependable non-ionic detergent that is completely compatible with acids, alkalis, electrolytes, hard water and both cationic and anionic surface active agents.

As a detergent, **NEUTRONYX 600** is far superior to soaps and is outstanding for its excellent cleansing and wetting properties, particularly in the washing of hard surfaces.

In wetting operations ranging from coal mining to removal of wall paper; as a dispersing agent where soaps are used in hard water or with pigments or certain acids; and as an emulsifying agent in chlordane, DDT, emulsion paints, cosmetics and pastes, **NEUTRONYX 600** has proven its superior effectiveness in every application, and at considerable savings.

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NAUGAROMES—For various industrial and commercial uses.

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SHAMPAROMES—For liquid, cream and paste shampoos.

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Soap quality and grade consistency depend so much on the uniformity of your raw materials, it's good to have a source of supply in which you have complete confidence. That's why so many manufacturers are depending regularly on *International for Caustic Potash*. You'll find that *International Caustic Potash* is virtually free of impurities, consistently low in iron, copper and nickel. So for your requirements of Caustic Potash for the production of soap or other products, call *International* and be sure.

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Special low iron grade—45-50%. Available in 675 lb. drums and tank cars.

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SOAP and SANITARY CHEMICALS

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A light yellow powder, 100% salt-free organic; based on polyoxyethylene ester of mixed fatty and resin acids. Low sudsing action especially applicable for uses where foaming impedes mechanical cleaning.



Easy-to-mix, non-ionic

RENEX[®]

powdered detergents



RENEX 35

A pure white powder, 100% salt-free organic; based on polyoxyethylene ether alcohol. Has high foaming index and emulsifying power . . . exceptional detergency on wool. Its high acid stability proves advantageous for use in acid cleaners.

These free-flowing powders are exceptionally easy to mix into dishwashing and laundering compounds, general household cleaners, detergent sanitizers, dairy cleaners and scores of other preparations.

Their many advantages include protein solubilizing action, compatibility with germicides and other ingredients. You have a choice of either low or high foaming index. Like all members of the Renex family, these powder forms build high detergency at low cost.

Write today for samples, and for full technical data.



INDUSTRIAL CHEMICALS DEPARTMENT

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POWDER COMPANY

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offices in principal cities

ATLAS POWDER COMPANY, CANADA, LTD.
BRANTFORD, CANADA



The perfume in a soap is there for but one purpose....to increase consumer appeal. To accomplish this it must provide a fragrance which appeals to the market...it must influence the buyer at point of purchase, and last delightfully throughout the total use period.

The able soap perfumers of van Ameringen-Haebler, Inc. know soaps and know perfumes. They can give you soap perfumes that are technically right, and appealingly right.

VAN AMERINGEN-HAEBLER, INC.

521 WEST 57th STREET • NEW YORK 19, NEW YORK



*Double your sales potential with detergent **ALKANE***

You have seen the rapid growth of detergents until today they account for 50% of consumer washing product sales. Leading soapers see an ever increasing share of the total market for detergents.

The future of your company may depend on your entering the detergent market now. And packaging detergents may be easier and less costly than you think.

(1) Oronite can now offer you Alkane—the basic raw material used in making the highest quality synthetic detergent products. It is available at a consistently low price to assure you a stable market price on your

finished product. Actually, during the past seven years, there have been many price decreases on Alkane because of expanding production and improved technology. Oronite Alkane is available in assured supply from three strategically-located bulk terminals.

(2) To assist you in determining your manufacturing costs, Oronite's engineering service has a plant design to fit your needs, can suggest which present equipment can be utilized, can provide equipment prices, performance data, yields—complete technical information to put you in a profitable detergent business at a minimum investment.

If you are interested in packaging detergents, or wish to see how economically you can convert your own operation, address an inquiry to any Oronite office. We will have a detergent engineer contact you.

"World's largest producer of synthetic detergent raw materials"



ORONITE CHEMICAL COMPANY

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A PRACTICAL 435-page book concerned primarily with the detergent compounds defining the various types of synthetics as to class, manufacture, application and processing. In addition to a thorough analysis of the manufacturing processes involved and a discussion of source and preparation of raw materials, the author also presents an adequate theoretical background on the fundamentals of surface activity and the relation of surface activity to detergency, emulsification, foaming, wetting and dispersion. This text will be of interest to all in the detergent field, including those concerned with the manufacture, packaging, application and processing of surfactants, as well as those supplying raw materials.

SOAPS AND DETERGENTS

by E. G. Thomssen and John W. McCutcheon

THE latest and only complete American book on soap manufacture, "Soaps and Detergents," is primarily a practical book for the practical production man, chemist, or executive. It covers such subjects as soap making methods, equipment and machinery, raw materials, perfuming and coloring, glycerine recovery, and properties and applications of finished soap and detergent products. No soap or detergent laboratory, plant, or office should be without this standard volume.

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by Leonard Schwarcz

29 chapters — 576 pages. Subjects covered include: bacteria and disease, principles of disinfection, disinfectants (6 chapters), deodorants, man versus insects, household and industrial insecticides (9 chapters), rodenticides, floor waxes and floor care, sweeping compounds, potash soaps, detergents and cleansers (4 chapters), labeling and packaging, laws and regulations explained.

A practical book on formulation, properties, testing, history and effective use . . . full coverage of labeling (with specimen), laws, regulations, etc. . . . for every executive, salesman, plant man and chemist . . . in plain understandable language . . . an entirely new book!

MODERN CHEMICAL SPECIALTIES

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THIS 514-page text covers the formulation, manufacture, and use of polishes, cleansers, detergents, floor-care, leather-care, and textile products, industrial, household, and many other allied chemical specialties. Each of the 42 chapters deals with a different specialty and includes formulas and manufacturing methods for that specialty. The manufacturer, marketer, chemist and production man will find this book of great value.

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BOOKS were designed for you by the only publisher
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FOR WHITENESS AND BRIGHTNESS...

In both home and commercial laundering, it's been proved that soaps and detergents containing Hercules CMC-CT enable white and dyed goods to come through wash after wash with their full whiteness and brightness. One reason is the outstanding ability of CMC-CT to keep dirt from being redeposited before final rinsing.

Hercules CMC-CT is one of the best additives for soil-suspension and also one of the most economical. About 1% based on total formulation is all you need to put new-like whiteness and brightness into your synthetic detergents and built high- and low-titer soaps.



Cellulose Products Department **HERCULES POWDER COMPANY** 961 Market Street, Wilmington 99, Del.


HERCULES®

CMC-CT

CM53-A

... in brief

as the editor sees it . . .

 **DETERGENT FUTURE . . .** Some indication of what lies ahead in the soap versus synthetic detergents battle was given in the recent statement by Sir Geoffrey Heyworth, chairman of Unilever, Ltd., speaking at the annual meeting of the British company. Sir Geoffrey concedes that detergents are here to stay, but does not consider soap to be a dead duck. Its attractively low price, versatility and mildness were factors listed by the Lever chairman as being in soap's favor.


The market for the two products is not a static one, in which soaps and synthetic detergents are competing for a set share, Sir Geoffrey told his listeners. An equilibrium in sales between the two products would be reached, he predicted, but said it was impossible to tell at what point. He mentioned that some authorities felt soap would be reduced to a small share of the market, while others thought soap would continue to represent a major portion of all detergents sold. New developments in the research laboratory might swing the trend back to soaps, Sir Geoffrey indicated.

The soap industry as a whole is more dynamic as a result of the introduction of detergents, which have also had a marked effect on the whole chemical industry, particularly in the development of new products, the Lever chairman reported. Synthetic detergents have also stimulated scientific thought on detergency and the washing process. The preference of some consumers for synthetic detergents and others for soap, make it necessary for soap manufacturers to continue to make and sell both types of products, he stated.

He also indicated that most reputable manufacturers had convinced themselves by practical tests that the synthetics did not involve greater

risks than were incurred with blended soap products. The slightly higher price for a package of blended synthetic detergent, although it will go farther in hard water, is still a sales handicap, according to the Lever chairman. So is the impression that synthetics are "hard on the hands."

So what lies ahead? Here is one of the leading world authorities on detergents who yet is uncertain of the soap versus detergent eventual outcome. Could or will new research developments again change the trend? Who knows? And it's the \$64 question.

 **CLEANSER TEMPEST . . .** The advent of a new "Old Dutch Cleanser" which "sanitizes and deodorizes as it cleans" has brought something of a tempest among scouring cleanser marketers. It seems that the new "Old Dutch" has added a sanitizing agent and is out to regain some of the market which Colgate's "Ajax" has taken by storm over the past few years. The maker of "Old Dutch" is the Cudahy Packing Company and as a meat packer under the Packers and Stockyards Law is subject to regulation by the Department of Agriculture for all its products and not by the Federal Trade Commission as are most competing cleansers.

Now, USDA is reputed to be less severe in regulating advertising claims than the FTC, and therein lies the nub of the controversy. However, Cudahy maintains that its claims of sanitizing powers are accurate in every way. A definition of "sanitize" would seem to substantiate this. According to Schwarcz' *Sanitary Chemicals*, it means "to reduce germ count to a safety level, usually applied to dishes and drinking glasses; to

being into a condition conducive to health; to apply sanitary measures to."

If the new cleanser did not come under the Packers and Stockyards Law, conceivably it might fall under Insecticide, Fungicide & Rodenticide Act. But, be that as it may, Cudahy has a brand new idea and product, and obviously has every intention of entering the cleanser free-for-all to regain that part of the market, or more, which it has lost during recent years. Fur may fly.

●

INDUSTRIAL SOAP . . . One explanation for the drop in soap sales volume, advanced recently by a rather large jobber, is the almost complete switch away from soap to synthetic and other detergents in the kitchens of most restaurants, hotels and institutions. The trend away from soap for dishwashing has been as fast, if not faster, than in the home. Local water conditions have helped the trend. So, too, interestingly enough, has been the attitude of many health departments. In some areas, there exists what amounts to a virtual ban on the use of soaps for dishwashing in public eating places. Jobbers are pushing synthetic detergents because they are priced higher than soaps, and usually offer a better profit margin. And this in the face of competition from low soap prices. Unless a distributor is also selling soap to laundries, the commodity is fast disappearing from his line.

●

IWAX CLAIMS . . . Said a piece in *Tide* recently: "Homemakers tell me that of all the products which make unsubstantiated claims in advertising, the worst are the waxes — both furniture and floor." As we mentally review some of the advertising of cigarettes, automobiles, refrigerators, numerous food products, railroads and ship lines on the comforts of travel, and others, we wonder how accurate or complete are the observations of these "homemakers." Knowing the controversy which has been going on for some years past regarding claims of non-skid, water resistance and long wear, we still feel that waxes are a long way from

being the worst in unsubstantiated advertising claims.

We hold no whitewash brush for those wax polish manufacturers who go overboard with superlatives and exaggerated claims. At the same time, we believe that the general character and accuracy of advertising in the industry has improved greatly over the past year or two. Furthermore, the wax industry voluntarily is working to put its house in better order in the matter of advertising claims. Numerous industry meetings to this end have been held. Next month, September 15, industry representatives once again meet with the FTC for like purpose.

In thirty-odd years, the floor wax industry has grown from peanuts to seventy-five million gallons per year. Furniture polish sales too have expanded sharply of late. If wax advertising is "worst" in unsubstantiated claims, we wonder why these "homemakers," obviously disappointed with performance, continue to buy the products.

●

IAEROSOL FACTS . . . The dearth of information available to the householder on aerosol or other types of pressurized packaging recently was brought home to us rather forcibly when one of the large consumer magazines requested literature on the subject. In the fast development of this industry to the point where over 100 million pressure packaged products are sold annually, there has hardly been time to give real thought to an organized public relations program. This could include booklets and advertising designed to tell the public more about the merits of products dispensed under pressure.

That such a program is necessary in view of the spectacular success of the industry thus far may be questioned by some. But since the industry is still growing, and has an even greater potential than even the most optimistic would have predicted, we feel that some sort of concerted effort to tell the story of the industry and its products might well be undertaken. The industry must "learn to think big" if it is to achieve its maximum potential is the way one of its members recently put it. Part of this "thinking big" should include an organized program of information and education for the consuming public. How about reopening this important subject?

as the reader sees it . . .

Waxing Vinyl Floors

Gentlemen:

I read the report on maintenance of vinyl plastic flooring with much interest. We have advised all of our dealers that vinyl floor products should be waxed for protection and ease of maintenance, and I am glad to find written evidence to support our advice.

I would like to have 20 copies to place in the hands of our salesmen.

Samuel K. Custer
General Sales Manager
Landis & Co.
Philadelphia

This is one of over a hundred requests for "Waxing Vinyl Floors" reprint for 5 to 500 copies each. Supply was soon exhausted. More may be printed.—Ed.

Right Guy

Editor:

The recent news release published in the July issue of *Soap and Sanitary Chemicals*, prompts me to forward corrections in the spirit of setting the record straight. My name is M. Martin Maglio and not Martin

J. Maglio, as reported. It is true that I have a middle initial "J" but it fell into disuse many, many years ago. Secondly, the affiliate company is Worth Laboratories and not Fort Worth Laboratories.

Though Worth Chemical and Paint Co. is specializing in the manufacture of paints and paint specialties, Worth Laboratories is manufacturing a complete line of sanitary chemicals, such as antiseptic liquid soaps, un-medicated liquid hand soaps, floor soaps, detergents, germicides, disinfectants, self-polishing floor waxes, terrazzo seals, etc. In short, we are manufacturing a complete line of maintenance and sanitary chemicals.

M. Martin Maglio
Worth Laboratories
Lake Worth, Fla.

Soap for Terrazzo

Gentlemen:

Recent questions have been about vinyl plastic floors. We would like to bring up the same questions regarding terrazzo floors.

We believe a good water wax is a good protection for all floors. In

the terrazzo business, some contractors use a sort of varnish called a sealer. While a few are harmless there are some that are hard to remove, unless they use a very strong alkali compound or soap, which in turn eats the cement and chips.

We recommend the use of a wax right after terrazzo floor is finished. Can you recommend a mild soap for cleaning and maintaining terrazzo floors?

We would be pleased if you would publish this letter in your magazine, so that we may hear from the manufacturers.

We will test samples sent us, and recommend those which are harmless to terrazzo floors.

S. C. Bilbrough
Dezendorf Marble Co.
P. O. Box 121
Austin, Texas

Likes Vaporizer Letter

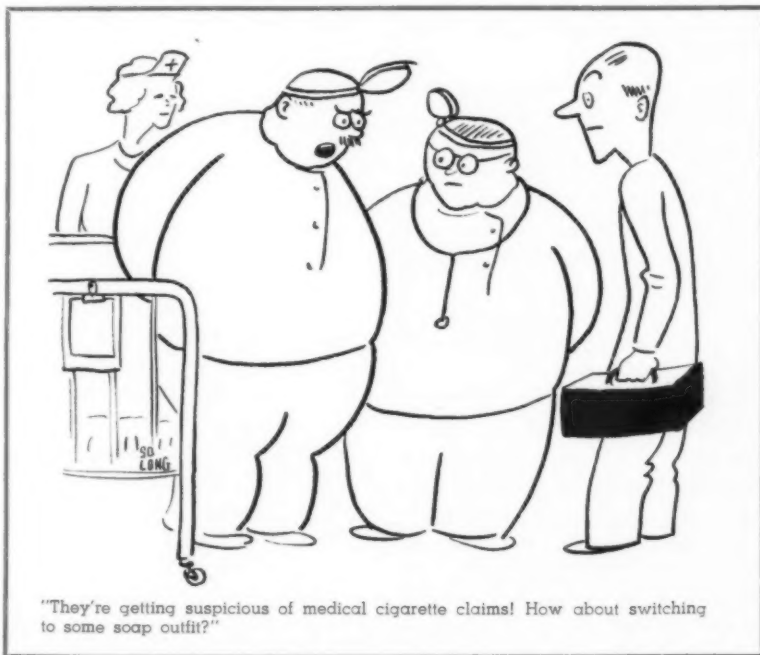
Editor:

Our hats off to Mr. Joseph A. Moran, president, American Aerovap, Inc. His answer in the June issue of *Soap* to your editorial on lindane vaporizers, May, 1953 issue, we believe, is the thinking of all manufacturers and distributors of this product.

Our industry has definitely been suppressed by the publishing of articles and editorials which have been adverse to the application and use of our products. We suggest that all articles printed include proof or basis for the statements. It seems that too much of this adverse publicity is assumption. Attention should be called to the article written by George S. Hensill and Dr. Stanley J. Leland which was published in your November 1952 issue. The statements in that article were based on actual tests and proof was included.

While most of the manufacturers of lindane vaporizers have adhered to all regulations and cooperated with the federal agencies in every respect, local authorities, in many instances, have not seen fit to recognize our products. Rather than enter into a cooperative, educational and con-

(Turn to Page 182)



ANY manufacturer who is about to introduce a new product, or any manufacturer who is having a tough uphill fight in his efforts to maintain or regain his competitive position in the market, must make a realistic and objective comparison of his product today with those of his competitors. Fundamentally, that's what product research is all about. It covers a very broad field: The research and development laboratory, market research, packaging, advertising research and the evaluation of your own and competitive products.

New products, new ingredients, new advertising appeals, are steadily creating new desires and preferences in the consumer's mind. And new competition for the consumer's dollar is a continual threat to profit margins. So, if the manufacturer is to know what, how much and at what price he can sell, he must study consumer desires as they exist today, and that means product research.

A century or more ago, when most products, even some toiletries, were custom made, there was a direct interchange of ideas and requirements between purchaser and producer. The producer had little opportunity for going astray. If the product did not meet the requirements of the buyer, it was easy to determine what was wrong, and the matter was quickly rectified in the finished product.

But in this day and age of mass production and complex distribution, the producer seldom comes in direct contact with the consumer.

On one hand, we have as the consuming public, people of many and diverse characteristics; people whose requirements vary considerably and are not easy to ascertain. To make matters worse, the majority of these people is inarticulate when it comes to expressing its product likes and dislikes. Consumers normally express their favor or disfavor in only one way and that is at the cash register. If they do not like a product and have any choice in the matter, they will show their non-acceptance in unmistakable terms. That is, by not buying it.

Our company has done a lot

The Why of Product

of product research—and to sum it up I can only say, "Never underestimate the power of a woman." I have been absolutely amazed by the keen perception displayed by the average consumer in recognizing quality differences in products. You just cannot fool Mrs. Consumer.

Of course, no intelligent manufacturer develops a product in a vacuum. He has the counsel of key personnel in the field of manufacturing, marketing, selling, and advertising. Unfortunately, even such expert advisers are frequently no more qualified than he is to appraise a product objectively nor are they able to foresee the reactions of the consumer any more accurately than he can. Only the product research approach can secure and interpret appraisals of the product from the people most qualified to evaluate it, the prospective purchasers themselves.

Reactions Evaluated

THROUGH demonstrations and supervised use tests, product research can and does get the reactions of a representative group of consumers to the merits of the product itself. Then, careful, unbiased evaluation of these reactions, coupled with an objective appraisal of competitive products, will disclose whether the product is ready to go to market or what changes, if any, are indicated to make the product more acceptable.

Manufacturers have not always had their present sensitivity to market demands in designing their products. Nor was product research a widely accepted procedure until recent years. In fact, the common philosophy in former days seems to have been that products, should be designed in the manner most feasible for production and that the burden of advertising and selling was to make the prospective buyer want that product. But today such an attitude has been supplanted by eagerness on the part of the manufacturer to keep advised of con-

sumers' wants and to design his product in accordance with those wants as closely as possible and manufacturing limitations permit.

This change of attitude has been bred in part by recognition of the enormous wastes and frequent failures of efforts to push onto the buyer a product which does not fit his needs or whims. In my estimation the following four points are by far the most important objectives of product research:

New Products

1. DEVELOPING a new product and determining its marketability: When an entirely new type of product is to be introduced, exhaustive product research is needed, since little is known about its acceptability and the exact form and features desired. If its production involves a large investment and risk on the manufacturer's part, the research may be costly and be drawn out.

I think we can all recall the day when soap shampoos were practically the only ones in the market. Some years ago the synthetic detergent liquid shampoos were developed. They made tremendous progress because they served the wants of the consumer. They did things that the consumer thought she wanted a new shampoo to do. The result was that synthetic shampoos took over. They grew rapidly, and became the leaders in the field. Not only that, but they vastly increased the shampoo market as a whole. I don't believe I have to dwell much on the example of the home permanent waves. We all know that there was a new idea developed, was introduced on the market, and from scratch has grown to the point where today sales are running in tens of millions of dollars.

A recent example, chlorophyll tooth paste. I say that with a bit of sorrow because we had to really do a little fighting and had a struggle on

our hands. Chlorophyll tooth paste came to market a couple of years ago. Today they are doing about 31% of the tooth paste volume. Certainly a new product, a new development has built up a tremendous volume running into millions again.

Recently I was reading a local newspaper article about Mennen's new plant in Morristown. I was interested to read in this article the following statement:

"New products have been the life blood of Mennen's through its seventy-four years and the spur of its constant growth, even during the depression."

One final example I would like to give is that of aerosol shaving creams. Just a couple of years ago they came on the market. It really wasn't until last year that many manufacturers jumped on the band wagon and started selling these new aerosol shaving creams. Our own company didn't get started until September of last year. We have been on the market only about eight months.

We all know that the shaving cream market over the years has been a very stable market, with very few fluctuations in it. In the eight months that we have had our aerosol shaving cream on the market the product has grown from nothing, according to the Nielsen Survey, until today it is the largest selling dollar volume item in the shaving cream field.

I am not mentioning this just to talk about our product, I am simply trying to drive home the point that new products which really perform and do a job for the consumer do mean increased sales volume.

I believe you will agree with me that all these examples prove the value of product research in obtaining increased sales through the development of new products.

* Paper presented at 18th annual meeting of Toilet Goods Assn., New York, May 13, 1953. Mr. Straka is a vice president of Colgate-Palmolive-Peet Co., and at one time served as assistant to E. H. Little, when the latter was president of C-P-P.

Changed Products

SOME products change models with regularity, such as automobiles; others, such as fashionable clothing, change with the seasons; others at irregular but frequent intervals. Very few products, however, are stable to the extent that they never undergo substantial changes. The need for constant improvement is always with us. As an example I might cite the Colgate ribbon dental cream story. Ten years ago we were in second place, a poor second. In 1942 we adopted an entirely new formula. This new formula, a development of product research, was sold by the same sales department and the same advertising department, using the same advertising story. It was the new formula that constituted the basic difference which started this product on its phenomenal growth.

In the spring of 1946 Colgate dental cream with its new formula went into first place and today it continues to be the largest selling toilet article in the world. I cannot think of a better example to show the value of improving an existing product to boost sales volume.

Still further needs for product research are occasioned by the actions of a competitor. As he launches new or changed products, the wary manufacturer should measure his success and determine the product modifications that are winning buyers. In the toilet goods industry, for instance, each producer not only has the need to analyze his own products, but also those of his several competitors.

This research may be a great boom to the salesman and the advertising copy man because it brings to them accurate knowledge of who the consumer is, her situation, her needs, and how she uses the product. With this insight into the prospects, appeals can be injected into selling and advertising that will clinch sales.

In this connection I should like



J. A. Straka

to emphasize the importance of evaluation research which determines the strong and weak points of each product. All of us, I am sure, will find this to be of the utmost value not only in improving and perfecting our products but also in providing a basis for a stronger, more effective advertising story. The more we know about our products, the more effectively we can plan our sales and advertising efforts.

Years ago the entire emphasis of my company was basically one of a sales and advertising organization. We were rather proud of ourselves. We thought we were pretty good. I think some of you can think back over the years of some of the Colgate advertising themes and slogans: "Keep that schoolgirl complexion." "It cleans your breath while it cleans your teeth." "Soap dulls hair, Halo glorifies it," and so on. We think we did a pretty good job on advertising.

Similarly, we thought over the years we had done a pretty good job on selling and promotion. We were one of the few manufacturers that developed a direct selling organization that covered all of the druggists in this country. We had some pretty good selling and promotional stunts. All during those years we noticed, that smart as we were, or thought we were, on advertising and selling, for some peculiar reason we would have an occasional failure or we wouldn't get where we thought we should be. In analyzing it we found that in some cases we weren't first in the field. We

came along with a good product, but it was a "me too" product; and it is pretty tough with a "me too" product to catch up with the leader. In other cases we had a product that maybe wasn't quite as good as it should have been. We ran into trouble and we didn't have success.

Gradually, over the years, we began to place more reliance on product research. I think the best example of product research today is that in the last ten years my company has increased its expenditures by over six hundred percent in this particular field.

Product Success Basis

MY COLLEAGUES in advertising and selling may not like this. I don't like it myself. It is rather disturbing to me as a sales executive to feel that this vaunted advertising and selling prowess can't stand on its own feet. I don't like to think that our advertising colleagues can get up one of their wonderful advertising stories and we can cook up one of our smart, hard-hitting promotional stunts and then find out that in the long run basically our success depends on the merits of the product. I have actually come to believe, and I believe this sincerely, that the best product is more important than the best selling and the best advertising. We all know how to do a good job of advertising, selling, and promotion. We've done it and are doing it. The difference in the degree of our success lies in what kind of products we have to sell.

Three Success Factors

THE success of a product depends basically on these three things:

A. The quality of the product (including the quantity, price and value).

B. The quality of the advertising.

C. The quality of sales, merchandising and promotion.

Of these factors, quality of the product is by far the most important. According to a survey reported in *Dun's Review*, people change brands because of product quality more than for any other reason. The second most important reason is price; and the third is the power of advertising. High

pressure advertising and sales may achieve initial success for an indifferent or inferior product. If the product does not deliver and satisfy, the consumer just does not repurchase. Any good advertising man, I am sure, will agree that the best advertising in the world can sell a poor product only once or twice, but it certainly cannot continue to sell an inferior product.

The manufacturer, therefore, must know the capabilities and limitations of his product before embarking on costly advertising and sales promotion. Today manufacturers operate in an extremely competitive market. More and more products, more and more advertising, more and more industries all fight for consumers' dollars. To enter and survive in this fierce competition, the importance of a thorough product research program as an essential part of the over-all marketing picture cannot be over-emphasized.

I would like to give you briefly a few data regarding research expenditures which I think are interesting and important in showing what some people think of product research. A survey of 10 drug and toilet article companies showed that on the average they spent 2.3% of their sales on product research in 1951, 2.8% in 1952, and they estimate a little over 3% in 1953. The range in these ran from 1½% to 5% of sales. One of the leading drug houses today is spending 9.2% of sales for research.

This survey of 10 drug and toilet article houses showed that their product research money on the average was spent as follows: 22% on improving old products; 43% on new products. (It varied from 30% to 50%.) The balance on fundamental research, development of new processes, improvement of present processes, technical surveys, etc. It is obvious, therefore, that some companies in our industry fully realize and are cashing in on the importance of product research.

Toiletry Research Lags

AS AN industry we are far behind in research. Three major industries—electrical machinery, chemicals, aircraft—account for 55% of the

two billion, three hundred million dollars spent annually on research and development. The aircraft industry leads with an expenditure of 13% of sales. These three industries also account for 55% of the personnel employed in research. These professional people not only are concentrated in a few industries, but also in a relatively few companies within each industry. More than a third of the researchers employed by companies representing 85% of the nation's industrial research are employed by less than 20 companies having professional research staffs of 1,000 or more. It behooves us to join the parade and expand our own product research.

In a report from David L. Babson & Company the following statement appears: "The characteristics of individual industries and companies do not change over long periods of years when technological advances or management policy may cause basic changes. The fundamental characteristic of the chemical industry, for instance, is growth through emphasis on research and discovery of new products and new use for old products. Over the years we can find a direct relationship between the volume of a company's activity and the proportion of its sales represented by new products and processes."

May I emphasize by repeating that statement by David Babson: "Over the years we can find a direct relationship between the volume of a company's research activity and the proportion of its sales represented by new products and processes."

One example in the chemical field: DuPont spent \$1,500,000 on research in 1920, \$7,000,000 in 1939, \$16,000,000 in 1945 and \$38,000,000 in 1950. The DuPont research workers now number over 5,000. It is estimated that by 1955 DuPont's new chemical textile fibers alone will account for sales of \$550,000,000. The Du Pont Company existed 141 years before its total sales equalled \$550,000,000; yet in a few years new products developed in the past decade will have a sales volume larger than

(Turn to Page 151)

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Soaps for Christmas

THE prospect of enjoying a bright, and merry Xmas appears exceptionally good right now for gift soap producers and cosmetic houses as they display to the trade their new gift packages—and in some cases new soaps. However, most companies are confining their new holiday packaging almost entirely to bringing out standard items dressed up in gift boxes that don't emphasize Noel, because experience has shown that specialty items and packaged soaps which carry a Christmas motif become duds saleswise the day after Christmas.

Gift novelties, mainly designed for children, are available in a variety of snowman and animal shapes. Otherwise, there are few gimmicks or novelty lines, because the selling period is limited to approximately three weeks. Therefore, most gift soap distributors are depending upon the use of holiday tinsel and wrapping paper to empha-

A new gift in the "Old Spice" line, bottom left, combining a bottle of after-shave lotion, a bottle of talc, and "Smooth Shave" in an aerosol dispenser, has recently been announced by Shulton, Inc., New York. Gift box of vellum paper is lined in red. Bottles made by T. C. Wheaton Co.; pintles by John Hassall, Inc.; Pressurized can by Crown Can Co. Retail price, \$3.00 plus tax.

"Very Important Person," has been adopted by Lentheric, Inc., New York, for the Christmas package, upper left, which features a five-ounce bottle of after-shave and "Close-up" brushless lather cream in a six-ounce aerosol container. Retail price, \$2.00.

New Yardley brown and white gift package, top center, contains two cakes of "English Lavender" bath and complexion soap and easily gripped bottle of lavender-scented bath salts, introduced by Yardley of London, Inc., New York. Set retails for \$2.50 plus tax.

An unusual pink and silver drawer box with scroll design, top right, containing nine French hard milled, floral bouquet scented hand cakes of soap, is being featured for a Christmas gift by Hewitt Soap Co., New York. Three and one-half ounce cakes come in yellow, pink and aquamarine. Box made by Central Carton Co., Cincinnati. Box retails for \$1.00.

Wrisley's box of four "Bath Supreme Soap," upper right, is available in a new sleeve illustrated with a Christmas scene. Soap, made by Allen B. Wrisley Co., Chicago, retails for \$1.00. Six boxes to a carton.

"On Dit," a new bath set of "Jasmin" hard milled bath soap, bath salts and bath powder has been introduced by Elizabeth Arden, Inc., New York, in a solid bottom box with transparent acetate cover. Plastic cover made by Plax Corp., Hartford, Conn.

"Bird of Paradise" illustration appears on several packages which Helena Rubinstein, New York, has specially introduced for the holiday selling period. Typical box set, lower right, holds dusting powder and cologne.

"Blue Grass Dusting Powder" and a snow ball size cake of hard-milled bath soap, lower middle, is available from Elizabeth Arden, Inc., New York. Retail price, \$3.75.





size the desirability of giving soap as a gift at Christmas time.

The sleeve or "slipover" will be used by most firms with effectiveness this year, because it focuses attention inexpensively on packaged soaps as an ideal and beautiful Xmas gift, and it may be discarded after the holiday, thus eliminating the expense of returning the package for repacking. The package, once the sleeve is removed, can be sold as a gift all year.

A few cosmetic houses, which are repackaging all of their products in special Christmas gift packages, find that color and fragrance are important factors in selling soap gifts. The less expensive soaps are more easily sold through the use of special displays, sleeves, and fancy gift wrapping.

Prices of "gift soaps" are approximately \$1.00 to \$6.00.

Selections from those lines available at this time, which show the gift, novelty, and special Christmas wrapping are shown on this and adjacent pages.

New Christmas "Lotus Stocking Filler" set, upper left, marketed by Yardley of London, Inc., New York, features a large cake of new "Lotus Soap" tied with a satin ribbon to a bottle of "Lotus Cologne." Retail for \$1.65, plus tax.

Large snow ball shaped cake of bath soap, wrapped in angel-sprinkled paper, is featured by Elizabeth Arden, Inc., New York. Soap, available in "Blue Grass," "June Geranium" and "Jasmin" scents, retails for \$1.50.

Yardley shaving kit of genuine leather, top right, equipped with wooden shaving bowl, invisible talc and cologne, is being marketed by Yardley of London, Inc., New York. Retail for \$16, plus tax.

"Blue Grass" bath set, lower left, with four-ounce bottle of "Flower-mist" cologne, cake of soap, dusting powder, and four-ounce bottle of hand lotion, is an offering of Elizabeth Arden, Inc., New York. The stand-up box retails for \$6.25.

New plastic "Fresh-Up" kit, lower middle, containing four two-ounce plastic bottles of deodorant and cleaning lotion, has recently been marketed by Lanthier, Inc., New York. Vinylite satchel made by Julius Sharat Co.; bottles by Imco Co. Retail price, \$3.00.

Courtley's "One For the Road" traveller's kit, lower right, is specially introduced for Christmas, Richard Hudnut Co., New York, announced recently. Kit retails for \$3.75 plus tax.

Facing Page

"Old Spice For Men Shower Soap," upper left, is a new seven and three quarter ounce cake of fine-milled, free-lathering soap with convenient neck cord attached, which Shulton, Inc., New York, has announced as Xmas gift. Cake retails for \$1.00.

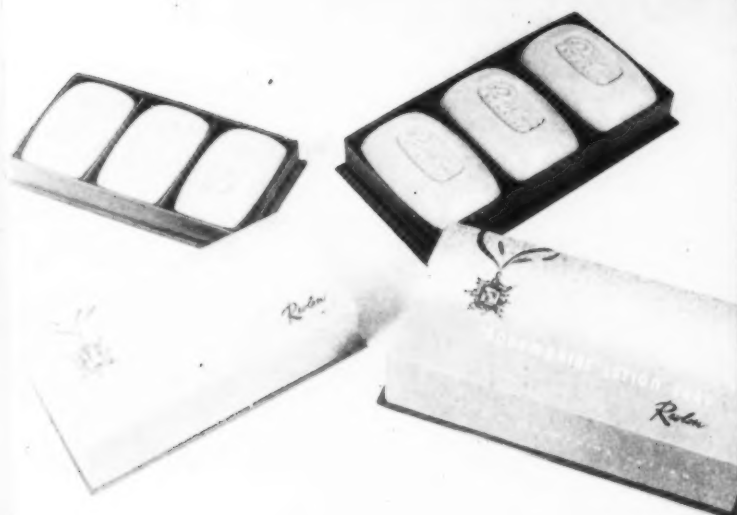
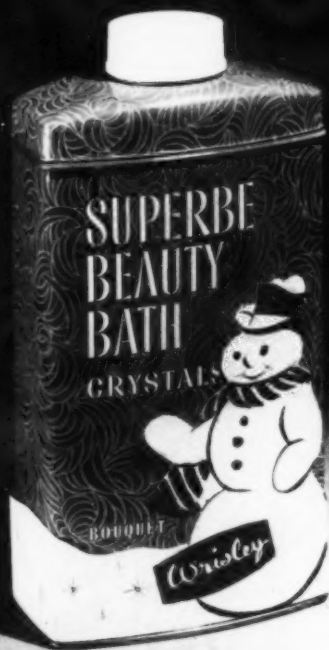
A picture window carton of "Wrisley Superbe Bubble Bath," upper right, has recently been introduced by Allen B. Wrisley Co., Chicago, for Christmas selling. Carton containing 20 envelopes is packed 12 in a shipping container. Carton retails for \$1.00.

Wrisley's "Superbe Beauty Bath Crystals," middle left, has been inserted into a sleeve shaped like a snow man. Product, made by Allen B. Wrisley Co., Chicago, is available in a variety of fragrances. Retail price, \$1.00.

"Here's How" shave trio, middle right, featuring four-ounce each of after-shave lotion and talc, along with an aluminum shave bucket of soap, in a white box that is scarlet-lined and lettered in silver, has been introduced by Gourielli, New York. Retail price, \$5.50.

New gift packages of "Aquamarine" lotion soap, lower photographs, were introduced recently for holiday sale by Revlon Corp., New York. Package of six French hand-milled complexion size cakes retails for \$1.25; package of three bath size cakes for \$1.75.





Evaluation of Surfactants

THIS project was initiated to corroborate and extend the work reported by Bootzin (1), wherein he studied the effectiveness of surface active agents in displacing water from steel surfaces by means of a test dependent upon visual examination.

Subsequent to the above work, Eisler (2) developed a radiometric technique to determine the water displacing efficiency quantitatively. Since this work was limited to the study of commercial rust preventive materials, it was deemed advisable to repeat the work done with surface active agents using the improved technique and at the same time to extend the scope of the investigation.

Of the many factors which may be responsible for increased water displacing ability, the following three appear to be of major significance: (1) molecular weight, (2) ionic behavior, and (3) major functional group. Therefore, it was hoped that if a sufficiently large number of surfactants were tested, some definite trends would be evolved relative to the above mentioned factors.

Based upon the results of this investigation, the problem of formulating effective water displacing rust preventive compounds should be greatly abetted.

Materials Employed

IN THE cut-back type of rust preventive, it is common practice to use Stoddard Solvent or some similar solvent as a diluent. Since it would be necessary for the surfactant employed in the formulation of the rust preventive to be compatible with the other components, it was decided to test

only agents which were soluble in Stoddard Solvent. In order to reduce the number of agents tested to a reasonable number, it was decided to limit the water displacement tests to those agents which were soluble at a concentration of one percent by weight. A deviation was made in the above procedure in the investigation of one series of agents in order to obtain more information on a homologous series. A large number of agents were selected for these tests by making a survey of available literature and by contacting several manufacturers who recommended and supplied a number of their products for evaluation.

The radiosulfur used for this investigation was purchased from the Oak Ridge National Laboratory by authorization of the Atomic Energy Commission, Isotopes Division. The radiosulfur was received in the form of dilute $\text{H}_2\text{S}^{35}\text{O}_4$ which was neutralized with N/100 NaOH and added to distilled water to obtain an activity level of approximately 0.5 microcurie per milliliter.

The coupons used were circular discs made of S.A.E. 1020 steel and were .975" in diameter and 1/16" thick. A .073" hole was drilled 1/16" from the coupon edge to facilitate handling with wire hooks.

Test Methods

TO determine whether the surfactants were soluble at the various concentrations used, the calculated

amount of agent was added to the Stoddard Solvent. The mixture was then agitated thoroughly and at frequent intervals to facilitate the solvation. After 24 hours a visual inspection was made to determine if all the agent had gone into solution. The agents which were not completely soluble at a particular concentration were not tested for water displacement.

The experimental procedure for the water displacement test was as follows:

1. The circular steel test coupons were sandblasted on one face and thoroughly cleaned.
2. Coupons were momentarily dipped in a beaker of water containing 0.5 microcurie of $\text{Na}_2\text{S}^{35}\text{O}_4$ per milliliter.
3. To remove excess water, the coupons were allowed to drain for five seconds in a vertical position with the bottom edge resting on absorbent tissue.
4. Immediately after draining, the coupons were immersed horizontally for 15 seconds in a beaker containing 30 milliliters of the surfactant—Stoddard Solvent solution being tested.
5. Coupons were then suspended in a trichloroethylene vapor degreaser for 15 minutes.
6. After degreasing, the coupons were removed from the degreaser and desiccated until cool.
7. The counting was done using a Tracerlab Automatic Scaling

Abstract

THE radiometric method previously developed at this Arsenal was used to evaluate a large number of surfactants, and the results obtained should provide the necessary information for compounding water displacing rust preventives. Studies of the effects of molecular weight (within an homologous series), ionic behavior and functional group were also made. The results of these studies, while not conclusive, revealed that, (1) a higher percentage of anionic surfactants showed water displacing ability than those of other ionic behaviors, (2) some functional groups such as the sulfonates and acetates enhance the water displacement ability, and (3) the effect of molecular weight was indeterminate, increasing the efficiency in some cases while decreasing it in others.

(1) The opinions or assertions contained herein are not to be construed as being official or reflecting the views of the Department of the Army.
(2) Chemist, Ordnance Corps, Rock Island Arsenal, Rock Island, Ill. Present Address: Bendix Corporation, Davenport, Iowa.
(3) Supervisor, Radiochemistry Section, Ordnance Corps, Rock Island Arsenal, Rock Island, Ill.

Radiometric Evaluation of the Efficiencies of Various Surfactants in Displacing Water from Steel¹

By J. E. Smallwood² and Stanley L. Eisler³

Unit with the coupons placed in a lead shield and centered 10 millimeters from a type TGC-2 tube. The time required for a predetermined number of counts (512 or 1024) was determined, and the counting rate as net counts per second calculated. Background counts were made for a total of 128 counts.

Five coupons were used for each test, and the average counting rate was determined, invoking Chauvenet's

Criterion (3) for suspected determinations when applicable. The average net counting rate was then expressed as a percentage of the net counting rate of the negative control. Stoddard Solvent was used as the negative control in order to keep all conditions of the test the same and because it was assumed to possess no water displacing ability. All tests were run at least twice in order to eliminate erratic results.

Seventy-nine of the 210 sur-

factants tested were found to be soluble at one percent and were subsequently tested for water displacement. An additional 10 surfactants (Nos. 151, 152, 153, 160, 163, 164, 165, 166, 175, and 176) which were not soluble at one percent were also tested at a concentration of 0.5 percent in order to obtain information on the behavior of homologues. The code numbers and chemical compositions of these 89 agents are presented in Table 1.

The average results of the de-

TABLE I. Identification Code for Surfactants

Code No.	Chemical Composition	Code No.	Chemical Composition
2	Fatty alcohol sulfate	157	Coco Amine Acetate (Tech)
4	Dioctyl Sodium Succinate	158	Coco Amine Acetate
5	Diamyl Sodium Succinate	160	C16 and C18 Amine Acetate
11	Fatty alcohol sulfate (85% solution)	161	Soy Amine Acetate (Tech)
13	Fatty alkylol amide condensate	162	Soy Amine Acetate
14	Polyoxyalkylene Ester	163	Tallow Amine Acetate (Tech)
15	Sorbitan Trioleate	164	Tallow Amine Acetate
17	Fatty alcohol sulfate (70% solution)	165	Octadecylamine
18	Polyglycol Ester	166	Octadecylamine (Tech)
19	Polyoxyethylene Glycol 400 di, triricinoleate	167	Hexadecylamine
20	Alkyl imidazoline type tertiary amine	168	Tetradecylamine
21	Sulfonated fatty acid	169	Octylamine
24	Fatty amine	170	Octylamine (Tech)
25	Sorbitan Mono-oleate	171	Decylamine
31	Diethylene Glycol Oleate	172	Decylamine (Tech)
33	Monoethyl phenyl phenol potassium monosulfonate	174	Dodecylamine (Tech)
34	Sorbitan Monolaurate	175	Tallow Amine
35	Monoethyl phenyl phenol guanidine monosulfonate	176	Tallow Amine (Tech)
66	Fatty Amine	177	Soy Amine
78	(Not given)	178	Soy Amine (Tech)
90	Unsaturated Fatty Acid (18 carbon atoms)	181	Coco Amine (Tech)
91	Glycero-phosphoric acid-choline fatty acids	182	Coco Amine
95	Long Chain Fatty Ester of multiple etheramine linkages	183	Polyoxyethylene Glycol 400 dioleate
99	Unsaturated Alcohols	184	Organic phosphates
101	Unsaturated Alcohols	185	Organic phosphates
115	(Not given)	186	Polyether Alcohols
121	Polyoxyethylene Sorbitol 4,5-dioleate	189	Alkyl Aryl Polyether Alcohols
129	Polyoxyethylene Sorbitol Tetraoleate	190	Phthalic glycerol alkylid resin in ethylene dichloride
130	Polyoxyethylene Sorbitol Dioleate	192	Monoleic derivative
131	Polyoxyethylene Sorbitol Pentaoleate	193	Glycero-phosphoric acid—choline fatty acids
139	Chloride mixture of di-fatty alkyl salts	195	(Not given)
140	Lauric Acid	196	(Not given)
141	Amino-Propyl Tallow Amine	197	Barium sulfonate
142	Amino-Propyl Tallow Dioleate	198	Alkyl phenoxy polyoxyethylene ethanol
143	Amino-Propyl Tallow Amine	199	Saturated Fatty Acids (16-18 carbon atoms)
144	Amino-Propyl Soy Amine	200	Diester of Polyhydric Alcohol
145	Amino-Propyl Coco Amine	201	1-Hydroxyethyl—2 hepta decenyl glyoxalidine (90%) with linear amide of oleic acid (10%)
146	Amine (12 carbon atoms)	202	Polyethylene Glycol 400 Dioleate
147	Octylamine Acetate (Tech)	203	Polyethylene Glycol 400 Dilaurate
148	Octylamine Acetate	204	Polyethylene Glycol 200 Dioleate
149	Decylamine Acetate (Tech)	205	Polyethylene Glycol 200 Dilaurate
150	Decylamine Acetate	206	Polyethylene Glycol 300 Dilaurate
151	Dodecylamine Acetate (Tech)	207	Polyethylene Glycol 300 Dioleate
152	Dodecylamine Acetate	208	Polyethylene Glycol 600 Dioleate
153	Tetradecylamine Acetate		

terminations are presented in Table 2 as percentages of the negative control net counting rate. The values for tests conducted at higher and lower surfactant concentrations are also presented in Table 2. Surfactants were tested at lower concentrations provided they passed the 25 percent criterion established by Eisler (2), which states that if the net counting rate of the test solution is less than 25 percent of the net counting rate of the negative control, the material is acceptable. Surfactants were tested at higher concentrations if they were soluble and if they had failed to meet the above criterion. In each case, the concentration was exactly half or double that of the preceding test.

In general, water displacement increased with increased concentrations; however, certain exceptions, such as the results for agents number 66 and 198 at two percent concentrations, were noted. Many other minor variations were also noticed. These variations may be attributed to any one or combination of the following reasons:

1. Randomness of atomic disintegration.
2. Possible variations in solution removal resulting in films being left on the coupons in some cases.
3. Behavior of the surfactant compounds themselves.

Of the 79 surfactants tested at one percent, 16 were found to be acceptable. The effectiveness of these surfactants decreased with lower concentrations as was to be expected. One sample (No. 11) was found to be effective at a concentration as low as 0.016 percent. An additional 17 surfactants were acceptable as water displacing agents when tested at the increased concentrations of two, four and eight percent. Of the 10 surfactants which were not soluble at one percent but which were tested at 0.5 percent, an additional three were found to be acceptable. This makes a total of 36 surfactants which were effective water displacing agents at the various concentrations used in these experiments or approximately 40 percent of the number on which the water displacement tests were run. The breakdown of these results indicates the fol-

lowing number of surfactants effective at each minimum concentration:

Concentration %	Number of Surfactants
.016	1
.031	0
.063	6
.125	1
.25	5
.50	4
1.00	2
2.00	7
4.00	5
8.00	5

A breakdown of the 89 agents tested for water displacement showed that 31 were nonionic (N), 46 were cationic (C), and seven were anionic (A) (Table 2). The polar behavior of five agents was unknown. Tests conducted at a concentration of one percent revealed that 86 percent of the anionic, 24 percent of the cationic, and only three percent of the nonionic surfactants tested were acceptable. Since some agents of all three types were effective in removing water from steel surfaces, no definite line can be drawn in predicting the ability of agents from the polarity; however, the above results indicate that the probability of an agent being effective would fall in the following order:

- (1) Anionic
- (2) Cationic
- (3) Nonionic

Table 3 has been compiled to aid in determining the effect of functional groups and the effect of molecular weight within a homologous series, wherein the surfactants are arranged in order of increasing molecular weight, insofar as this information was available. In this table, the percentages at one percent concentration from Table 2 are regrouped by functional groups, where the necessary information was available. In several instances where it was impossible to test the surfactants of an homologous series at the one percent concentration because of insolubility, the results at 0.5 percent have been included.

Samples 165 to 182 (Group A of Table 3) are alkyl amines ranging from a chain length of 8 to 18 carbon atoms. Agents 147 to 164 (Group C of Table 3) are the corresponding acetates of the above amines. From an analysis of the results given in Table 3 for these two types of surfactants, the following is apparent:

1. As the carbon chain lengthens, solubility and water displacing ability decreases.

2. In general, the technical grades gave better water displacement. A plausible explanation of this is that the technical grade may contain a greater amount of the next lower molecular weight compound which would tend to give better water displacement. Under the composition column in Table 3, the predominant composition is given, however, small amounts of both the higher and lower molecular weight compounds are present.

3. The acetates of the amines are much better water displacement agents than the amines.

Analyzing the results presented for the laurates and oleates in Table 3, the following conclusions may be drawn:

1. The numbers incorporated in the names of the dioleate and dilaurate series refer to their approximate molecular weight. Therefore, it may be seen that in both series the water displacing ability increases with increasing molecular weight, although none of the materials pass the criterion for acceptability.

2. No significant difference is observed between the dioleate and dilaurate series at the one percent concentration. However, at the eight percent concentration level shown in Table 2, samples Nos. 204, 207 and 208, which are the 200, 300 and 600 molecular weight dioleates, respectively, are acceptable, while samples Nos. 205, 206 and 203, which are the 200, 300 and 400 molecular weight dilaurates, are not acceptable.

3. In general, the surfactants in this group were poor water displacing agents, with the exception of number 142 which was acceptable at one percent.

An analysis of the remaining sections of Table 3 reveals the following information relative to the water displacing ability of the various groups:

1. The esters generally were poor except No. 21, a sulfonated fatty ester.

2. The unsaturated alcohols
(Turn to Page 101)

TABLE 2. Efficiency of Water Displacement — Percent Water Retention

Agent No.	Ionic Behavior	Percent Concentration of Agents										
		.008	.016	.031	.063	.125	.25	.50	1.0	2.0	4.0	8.0
2	U								104.8			
4	A								11.0	Ins.		
5	A			44.2	16.4	14.1	13.6	10.2	29.2	Ins.		
11	A	44.5	21.4	13.8	10.8	16.5	12.6	11.2	11.1			
13	N								61.4	49.7	50.5	44.1
14	N								58.0	45.6	34.5	33.7
15	N								69.5	60.4	53.5	44.4
17	A			46.5	16.2	16.2	14.4	13.0	13.0			
18	N								59.4	Ins.		
19	N								53.6	41.5	20.4	Ins.
20	C			61.5	34.7	20.6	15.8	15.8	10.2			
21	A			49.0	11.8	15.5	15.5	15.4	12.4			
24	C								70.8	58.6	55.9	53.6
25	N								60.6	51.5	Ins.	
31	N								71.1	27.7	10.3	Ins.
33	A					80.6	56.3	20.2	13.0			
34	N								58.9	Ins.		
35	A					85.0	58.3	20.6	11.2			
66	C								66.5	18.4	32.3	20.2
78	U			57.1	25.4	24.3	25.0	22.0	19.6			
90	C								64.9	57.2	55.1	52.6
91	C								74.9	74.4	70.7	68.8
95	N								94.7	91.7	66.0	38.5
99	C								96.2	Ins.		
101	C								91.6	93.7	94.2	Ins.
115	N								60.4	Ins.		
121	N								62.5	Ins.		
129	N								63.3	Ins.		
130	N								62.3	56.2	52.7	45.9
131	N								77.9	57.4	55.2	45.2
139	C								39.5	26.2	22.7	22.4
140	C								77.5	66.9	62.4	48.8
141	C								60.0	12.4	Ins.	
142	C					75.6	64.0	59.6	13.1			
143	C								69.9	Ins.		
144	C								51.8	Ins.		
145	C								49.9	8.2	6.8	5.7
146	C								47.4	9.9	6.5	4.8
147	C					92.9	42.1	18.7	12.0			
148	C					86.4	46.6	12.6	14.3			
149	C					78.7	63.8	53.3	20.5			
150	C								29.8	12.1	7.8	5.8
151	C							69.0	Ins.			
152	C							70.0	Ins.			
153	C							48.0	Ins.			
157	C								28.2	12.8	10.5	7.5
158	C								39.4	10.9	5.4	5.0
160	C					53.4	22.2	21.7	Ins.			
161	C					73.3	16.8	13.4	13.6			
162	C					35.3	20.4	15.8	10.4			
163	C					75.4	19.2	20.7	Ins.			
164	C					32.5	18.9	20.2	Ins.			
165	C							96.6	Ins.			
166	C							105.7	Ins.			
167	C								77.2	65.0	Ins.	
168	C								93.3	88.1	34.2	Ins.
169	C								83.8	121.5	112.8	Ins.
170	C								74.6	Ins.		
171	C								88.3	70.4	19.2	9.1
172	C								89.2	80.7	Ins.	Ins.
174	C								86.1	Ins.		
175	C							108.1	Ins.			
176	C							90.4	Ins.			
177	C								78.8	65.3	42.0	19.5
178	C								70.5	Ins.		
181	C								100.3	Ins.		
182	C								83.8	Ins.		
183	N								62.6	53.1	42.5	37.6
184	N								34.1	16.8	17.7	14.6
185	N	87.0	72.0	26.3	16.8	11.7	9.8		13.2			
186	N								61.2	46.8	17.7	10.6
189	N								30.7	30.6	Ins.	
190	N								63.5	48.5	42.5	38.5
192	N								99.7	78.7	69.3	66.4
193	N								97.6	91.0	79.0	68.7
195	U								94.4	65.5	59.5	60.5
196	U								98.0	68.3	Ins.	
197	U								96.9	80.0	89.9	Ins.
198	N								53.3	15.0	27.7	27.8
199	C								56.1	Ins.		
200	C								56.6	34.3	Ins.	
201	C	60.4	31.1	11.5	11.8	9.5	10.0		7.0			
202	N								63.0	47.0	38.4	38.7
203	N								57.9	33.5	29.8	28.6
204	N								101.9	61.3	52.4	19.0
205	N								84.8	60.2	57.6	50.2
206	N								58.9	40.0	21.3	30.6
207	N								56.9	49.1	38.8	21.1
208	N								58.9	37.8	37.7	19.9

Code: U—Unknown N—Nonionic C—Cationic A—Anionic Inc.—Insoluble

Jobbing South of



Jose Ramon Alvarez, pres. of Mendez & Co.



Julio Rivera Rodriguez, sales mgr.



Wallcase show unit in one of the offices.



A similar unit in another office.



Julio Rivera Rodriguez takes plenty of samples with him when he starts making calls.

WITH new industries springing up in Puerto Rico at a current rate of seven a month under the government-sponsored expansion program, the janitor supply houses in that commonwealth are gratified with the opportunities presented by an expanding market.

Sponsored by the Puerto Rico Economic Development Administration, an arm of the insular government, more than 200 plants have been brought into being since 1948. Various inducements, have been offered to manufacturers, such as tax exemptions and official guidance until production is well under way. Governor Munoz's "Operation Bootstrap" calls for the establishment of still more new factory locations in the next few years.

The effects of this stimulus of fresh outside capital on the local sanitary supply companies is felt in two ways: first, greater volume of business, particularly from factories, purchasing agents for which are placing heavy orders particularly for liquid soap, paper products and cleaning fluids. Secondly, increased business is derived from firms which benefit indirectly from the improving economic conditions. The elevated purchasing power of the public calls for more facilities such as hotels, restaurants, retail stores, etc.

The largest sanitary supply house on the island is Mendez & Co., San Juan. Established in 1912, with Jose Ramon Alvarez as president, this firm carries on a general line of business activities which appears to be common practice there.

Maintenance supplies are only one of their major functions. In addition the firm handles sales of groceries and building materials and various other commodities, as well as acting as steamship, insurance and real estate agents.

Mendez is a manufacturer's

the Border

By Albert S. Keshen

representative, wholesaler and direct sales distributor. Sales are made to a diversified market which includes federal, insular and municipal agencies and health divisions, restaurants, institutions, groceries, garages and so on. The smaller stores require mainly sundries and paper towels.

Headquarters for this extensive enterprise is a large two-story warehouse and office building at 6 Desposito Street in downtown San Juan. The commodious sales rooms, often found among mainland States suppliers, have their counterpart in six wall cases equally divided among both front offices. They contain a general display of waxes, detergents and other products. Although customers are invited to come in and look around at every opportunity, most of them are contacted at their places of business, hence an elaborate display room is not essential.

Mendez & Co. is direct manufacturers' representative for the following major lines: Theobald Industries, West Disinfecting Co., W. E. Kautenberger Co., Chemical Service of Baltimore, S. C. Johnson & Son, Inc., Acme Steel Co., mops of Fricket-Brown Mfg. Co., American Steel Wool Co., Planet Paint & Varnish Corp., and Continental Summer Products Co.

Because of the distance from sources of supply, much of the imports coming on ship bottoms, it is necessary to maintain larger inventories than States dealers.

The Mendez sales organization includes a staff of five outside representatives headed by Julio Rivera Rodriguez. This crew covers not only the entire island but the nearby Virgin Islands, as well, which are only half an hour away by air.

The salesmen are all local residents who are paid commissions plus extras with a certain percentage above a fixed quota. Sales meetings are held once a week on Saturdays, with a general staff meeting held twice a year which factory representatives from

the mainland occasionally attend. Mr. Rivera, who had been a Fuller brush salesman for seven years, has a thorough background in the industry, having also received instruction at the Johnson wax plant in Racine, Wis. He occasionally makes visits to the States to study industry trends and acquaint himself with new products.

"Our market is primarily quality-conscious," said Mr. Rivera. "Purchasing agents would rather pay more for good material rather than quibble over prices. Although we have a tight, concentrated market to contend with, we don't get to every possible account. The hotels, for example, find it to their advantage to buy direct from the States, taking advantage of a larger discount, so we can't do much with the leading hostellers."

Puerto Rican buyers are also more skeptical than on the mainland and have to be thoroughly convinced of the value of a product before they will give an order, Mr. Rivera also advises. That is why he coaches his sales staff thoroughly in demonstration techniques. This is done by having salesmen take glass jars with them to show the chemical reaction of detergents. They also demonstrate vacuum cleaners, polishing and scrubbing machines to provide on-the-spot practical performance tests.

"We can't sell laundry soap to laundry owners, for example, unless we demonstrate the product right on the spot," explains Mr. Rivera. "Washing detergents have to be used in the kitchen of a prospect to show how they will work. In addition, we also offer detailed advice on the use of these floor machines and maintenance procedure, which is always appreciated since many of our customers may not have handled these products before."

Meetings of the municipal health bodies are attended frequently by Mendez salesmen. The meetings afford the salesman an opportunity to do a mass educational job. The Insular

Department of Health arranges the schedules for all of the small towns and the Mendez man familiarizes himself with these local problems in advance. At these sessions he may show a motion picture film supplied by a sanitary supply manufacturer, or take along a product to demonstrate it. He may also distribute literature, and show samples of new lines, etc.

Missionary work is a major part of the firm's promotional effort, since it has to deal with a public that is largely unfamiliar with the latest wrinkles in sanitation supplies, but is anxious to know more about them. Salesmen spend much of their time demonstrating equipment before janitors, nurses, school officials, administrative bodies, and other influential buying groups.

A valuable bit of advertising is the occasional exhibit arranged at the Condado, one of the leading hotels. The company also earns good-will by distributing valuable novelties such as a telephone book cover on which is imprinted all of their leading lines. The firm also distributes calendars and pencils. Occasional advertising space is inserted in *El Mundo*, a local daily.

Servicing facilities is an important factor in selling the Puerto Rican market. Mendez has a warrant policy of offering free servicing to its customers on sprayers, dish washers and other large machinery. This help is rendered personally by Mr. Rivera, who calls on leading accounts about every three months. He takes a set of tools with him so that he can make a periodic inspection of the machinery.

"Although this duty may seem, at first, to be a terrific time-consumer, nevertheless we find that it pays," explains Mr. Rivera. "It shows customers that we are interested in them and their problems. At the same time while we are discussing the operation of their machines there is an opportunity to find out their other needs and offer to supply them."

Once in a while a customer will come in and ask where he can find a competent man to clean and wax his floors. As can be surmised, wood floors

(Turn to Page 182)

What's New

This Page

New "Bleach-Ox" water softener, which Bleach-Ox Chemical Co., Bethlehem, Pa., introduced recently, is said to cut grease, remove stains, whiten clothes, destroy odors and be antiseptic. Quart bottle, lower left, carries a red, white and blue label. Cap by Crown Cork and Seal Co., Baltimore.

Latest in the line of soap paste dispensers announced recently by National Soap Dispenser Co., Los Angeles, is unit, lower right, which dispenses waterless creams, emulsions and mechanics' grit. It is designed with removable plastic top (see inset), heavy cast replaceable cup and bearing, and sturdy handle. Complete unit holds about nine pounds.

Facing Page

A new package design for one-gallon can of "Dan-Dee" plastic type, non-slip floor polish, upper left, has recently been announced by Twin City Shellac Co., Brooklyn. New package design was created to stimulate faster shelf movement in self-service outlets. Can by Atlas Can Co., Brooklyn.

"Holcomb Window Cleaner," in a new gallon container with special applied color label, upper middle, has recently been introduced by J. I. Holcomb Manufacturing Co., Indianapolis. Window cleaner is distributed

nationally direct to the consumer by manufacturer, Duraglas containers with ACL label are by Owens-Illinois Glass Co., Toledo. Black closures are by Armstrong.

A new powdered laundry bleach, "King Bleach," upper right, which employs a mild whitening action, is designed for use on sensitive fabrics, and can be used with tub-fast colors, has recently been marketed by Mangels, Herold Co., Baltimore. Product is packaged in one pound, blue and white box, bearing the familiar "King" lettering.

Yardley of London, Inc., New York, recently introduced its new "Lotus" complexion and bath soap scented with spicy lotus fragrance. Soap, left center, is packaged in a gray box, patterned with lotus motif in gold, red and black. The decorative theme is repeated on individual cake wrappers. Package of three cakes retails for \$1.50.

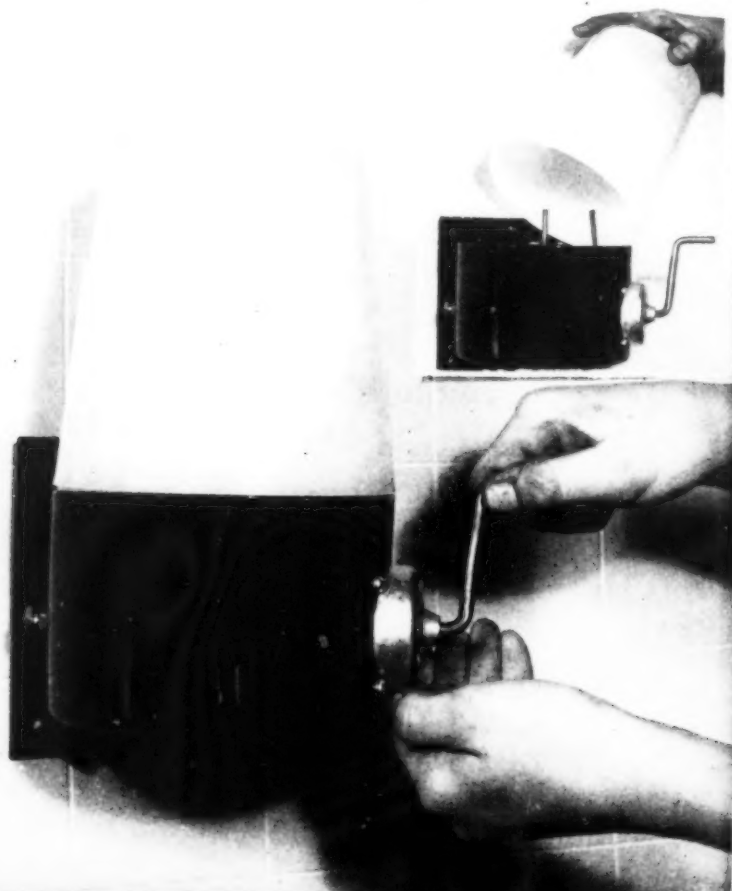
"Super Cleanser," a new fast acting cleanser especially designed for cutting greasy soils, to provide adequate stable suds, to rinse clear in hard and soft water and at the same time be mild and safe for hands and equipment, was announced recently by Solvay Process Division, Allied Chemical & Dye Corp., New York. Sealed polyethylene sample bags, in four and 14 ounce sizes, shown in middle right, are available on request.

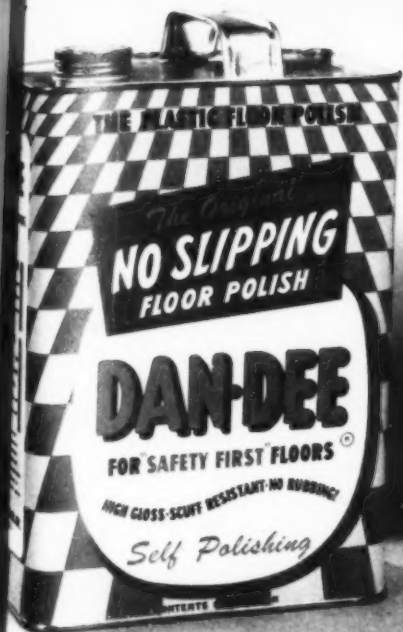
A new ceramic applied label for "Vani-Sol Bowl Cleanse," lower left, has recently been announced by National Laboratories, Inc., Toledo. Label, incorporating the scale which graduates the contents of the bottle in multiples of two ounces, was developed with assistance of Anchor Hocking Glass Corp., Lancaster, O.

Latest "Dr. LeGear" dog shampoo containing chlorophyll, lanolin and lindane has recently been marketed by Dr. LeGear Medicine Co., St. Louis. Shampoo, lower middle, which is not a detergent but liquid soap, is available in eight-ounce bottles and in a special assortment of nine different Dr. LeGear dog prescriptions.

New "Fore-site Egg Shampoo," lower middle, with 30 percent whole egg content and castile soap has recently been introduced by Prince Corp., South Orange, N. J., in an aerosol dispenser. New egg shampoo retails for around \$1.25.

A new deodorant for surface application, "Airkem 10-39," lower right, has recently been announced by Airkem, Inc., New York. New product is non-toxic, non-inflammable, colorless and contains no masking or anesthetizing agents. Product is highly concentrated and must be diluted with water before application. Available in pint and gallon bottles as well as 25 and 50-gallon drums.







Section of instrument panel recording factors controlling the consistency of Hercules dry Dresinate

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PD53-2



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| ★ Potassium Persulphate | ★ Metallic stearates | ★ Red oil |
| ★ Ammonium Persulphate | ★ Synthetic detergents | ★ Stearic acid |
| ★ Salt | ★ Borax | ★ Tallow |
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News

James A. Reilly Dies

James A. Reilly, 49, a director and executive vice-president of Colgate-Palmolive-Peet Co., Jersey City,



JAMES A. REILLY

died July 24 at his home in East Orange, N. J., following a heart attack. Mr. Reilly started to work for the Colgate organization in 1926 and served in various sales capacities. He was made a vice-president of the company in 1944, executive vice-president in 1952 and a director early in 1953. Mr. Reilly was chairman of the convention committee of the Association of American Soap and Glycerine Producers, Inc. for several years. He was also a director of the Grocery Manufacturers of America, Inc., trustee and vice-president of the Beard School in East Orange, and trustee of the Catholic Church Extension Society. He is survived by his mother, his wife, a daughter, Judith Ann, and seven brothers.

Universal Names Agencies

Four new companies have been appointed as sales agencies for its products, Universal Detergents, Inc., Long Beach, Calif., announced recently. The new Universal representatives are as follows: Goldpar Distributors, 137 Riverside Drive, New York; Martin Terr, 59-60 Commercial Wharf, Boston; George E. Moser &

Son, Inc., Penobscot Bldg., Detroit, and Edward J. Lewis Co., 9 South Clinton St., Chicago. The agencies are handling the sale of Universal's "Uder," "Udex," "Udet F," alkyl aryl sodium sulfonates, and "Udesolve," a line of aromatic hydrocarbon solvents.

Berkshire Acquires Perkins

Berkshire Color & Chemical Corp., Springfield, Mass., recently announced that it has purchased the plant and equipment of Perkins Soap Co. Floyd F. Warshaw is president of the new Berkshire division. All manufacturing and research facilities have been transferred to Berkshire's plant at 210 Albany St., Springfield. The company will continue to manufacture textile specialty soaps, as well as other products for the textile and tanning industries.

Lever Drops Nielsen

Lever Brothers Co., New York, recently announced it has canceled its contract for food, drug, radio-TV research with A. C. Nielsen Co., Chicago, effective next March 1. Lever is Nielsen's biggest account, spending in excess of \$500,000 a year. The move is said to be one of economy and is only part of a continued series of cut-backs that Lever is making.

Special Dial Offer

A new "Dial Shampoo" and "Dial Soap" combination package is being readied for September merchandising, Armour and Co., Chicago, announced recently. The combination features a large bar of "Dial Soap" free of extra cost with the purchase of "Dial Shampoo"—an 86 cents retail value for 67 cents. The deal is fair traded in all states having fair trade laws. Armour is announcing the combination offer through advertisements in supplements of Sunday newspapers Sept. 13. The offer also will be promoted on radio and television broadcasts Sept. 7 through 26.

Honey Names Mellen

Appointment of JeForest Mellen as executive vice-president and national sales manager for Honey Har-



deFOREST MELLEN

bour Co., Washington, Conn., was announced recently by Harvey S. Hewitt, president. Mr. Mellen is supervising the firm's soap production facilities in Southern California, and has established offices at 5624 Lankershim, North Hollywood.

Jones Appeals Burke Case

A decision clearing Frank Burke, an official of the Manhattan Soap Co. of New York, of conspiracy has been appealed by Duane Jones Co., New York advertising agency, in the Court of Appeals of New York for reinstatement of an earlier judgment. On Mr. Burke's subsequent appeal, the New York Supreme Court exonerated him and Robert Hayes, ex-Duane Jones president, of the charges of conspiring with several other former Jones employees to pirate accounts and pre-sell clients while employed by the agency in order to form their own company. Meanwhile both defendants and plaintiffs are waiting to see if the appellate division will uphold, decrease or increase the bond of \$150,000 originally put up by the defendants after the original jury awarded Jones \$300,000 in damages.



SILICATES

BELONG IN YOUR DETERGENTS

FOR CORROSION PREVENTION

Try this test on a strip of aluminum. In a carbonate solution, notice the bubbles that form and after a few drops of PQ Silicate are added, how quickly this action stops. There is no further attack on aluminum.

A good detergent builder also must be an effective inhibitor. You get both from the use of PQ Silicates. They protect aluminum, copper, brass, zinc and enamel and glazes from attack by synthetic detergents, phosphates and other alkalies.

When may we discuss what good company PQ Silicates are for your household or industrial cleansers, soaps, detergents?

P.Q.® Silicates of Soda
METSO® DETERGENTS



Philadelphia Quartz Co.
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Gillam Soap Works Is Sold

SALE of Gillam Soap Works, Fort Worth, Tex., in a transaction said to involve more than a half a

1931 by Mr. and Mrs. Gillam, who make their home at 1712 S. Adams St., Fort Worth. The business has



E. O. GILLAM

million dollars was announced recently by E. O. Gillam, owner and manager. Reason for the sale was Mr. Gillam's poor health, according to Frank Steinback, new president, who with his brothers, Sol and M. A. Steinback, acquired the firm. The Steinbacks operate a nation-wide chain of retail dress stores, with headquarters in St. Louis.

The name of the company has been changed to Gillam Soaps and Chemicals, Inc. In addition to Frank Steinback, other officers of the company are Sol Steinback, vice-president, and M. A. Steinback, secretary. The latter two will not be associated directly with the business, as they are engaged in the dress field in New York and St. Louis, respectively, according to Frank Steinback. Mr. Gillam remains on in an advisory capacity for the next six months, after which he will retire.

Although future plans of the company have not been revealed, it was announced that Arthur Ticknor, Mr. Gillam's son-in-law, who was vice-president and plant manager of Gillam Soap Works, is being retained as plant manager. Also staying on, according to Mr. Steinback, are Jan Marshall, Olive Dumke, George Bunt, Berry Jacob and the entire remaining staff.

The company was started in



FRANK STEINBACK

grown from one doing a gross of \$30 per day to \$1,000,000 a year. The firm presently employs between 70 and 80 people, as against three or four at the start. The Gillam plant is the old water works plant of North Fort Worth and the office is the former city jail.

Mr. Gillam was active in the formation of the Soap and Detergent Manufacturers Assn. The group was formed originally as the Potash Soap Assn. in 1947. It adopted the new name, Soap & Detergent Manufacturers Assn., later that year, and voted to dissolve at its annual mid-year meeting in June, 1949. Mr. Gillam was a director of SDMA and also was first president of the Independent Soapers of America.

Gillam makes and distributes soaps, chemicals, disinfectants and floor sweeping compound. Its principal customers are commercial laundries. Household soap products include "Ego" soap powder, "Blue Bonnet" soap chips and bar soap, "Ezo" and "Sav" soap powder. The firm also makes liquid and scrub soaps for industrial and institutional use.

Drew Appoints Rollinson

Appointment of Earle Rollinson as regional manager of its chemical specialties division was announced re-

cently by E. F. Drew & Co., New York. Mr. Rollinson supervises Drew sales and service activities for drycleaning products in the Middle Atlantic states. He has represented the company in that area for the past two years. A graduate of Hobart College,



EARLE ROLLINSON

Geneva, N. Y., he was owner and operator of his own drycleaning plant for 10 years before joining the Drew organization.

ADM Appoints Saunders

S. Grant Saunders has recently been named director of a newly formed economic research department of Archer-Daniels-Midland Co., Minneapolis. He is in charge of coordinating ADM's present market research and statistical departments and also serves as a staff economist.

Sharp Purex Sales Head

Appointment of Robert F. Sharp as general sales manager of Purex Corp., South Gate, Calif., was announced recently by A. C. Pelletier, president. Mr. Sharp succeeds William Neal, who has resigned after 17 years with the company to enter the food brokerage business in Southern California, but continues as an officer and director of the corporation. The new general sales manager has been with Purex for the past 16 years, starting as a specialty salesman in 1937. He later served as Northwest district sales manager and general manager of the Purex plant at Tacoma, Wash., from 1944 to 1949. In that year he was named assistant general sales manager and vice-president.



6 = 10

when it's **DRYMET***
the economical detergent silicate

Sixty pounds of DRYMET—*anhydrous* sodium metasilicate—will do the same amount of work as one hundred pounds of pentahydrate sodium metasilicate! You get approximately two thirds more chemical value in DRYMET, yet the price is less than one fourth higher at the producing factory!

DRYMET contains no water of crystallization. DRYMET is more economical to use on the basis of Na_2O (alkalinity) and SiO_2 (silicate) than *any other* type of anhydrous or hydrated detergent silicate.

If you are compounding with detergent silicates, investigate DRYMET for higher concentrations and longer mileage in such products as:

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|---------------------|-----------------------------|------------------------------|
| 1) Floor Cleaners | 4) Dairy Cleaners | 7) Soap Builders |
| 2) Laundry Products | 5) Dishwashing Compounds | 8) Paint Cleaners |
| 3) Metal Cleaners | 6) General Purpose Cleaners | 9) Paper De-inking Compounds |



Send for DRYMET
File Folder contain-
ing complete tech-
nical information.

If you are using detergent silicates directly in your operations, investigate DRYMET for:

- | | |
|--------------------------------|---------------------------------|
| 1) Reductions in product costs | 4) Reductions in handling costs |
| 2) Reductions in freight costs | 5) Reductions in labor costs |
| 3) Reductions in storage costs | |

* Reg. U. S. Pat. Off.

HEAVY CHEMICAL DEPARTMENT

COWLES CHEMICAL COMPANY
7016 EUCLID AVENUE • CLEVELAND 3, OHIO

Coty Names Dr. Rider

Appointment of Dr. T. H. Rider as director of cosmetic research for Coty, Inc., New York, was an-



DR. T. H. RIDER

nounced recently by Philip Cortney, president. Dr. Rider was formerly director of research and development of Lever Brothers Co., New York. At the same time, Mr. Cortney also announced the appointment of two other executives in Coty's general research laboratories. Jean Martin has been made director of the laboratories and Dr. Yolande Valer has been named assistant to the director.

Detergent to Wash Berries

A new detergent solution made by Monsanto Chemical Co., St. Louis, is being used to wash strawberries before packing them for market, it was announced recently by the company. Working with the University of Tennessee, Monsanto has developed the washing technique using its "Santomer" and "Sterox" synthetic detergent. This process considerably reduces mold on the berries at a cost of about seven cents per 100 pounds of berries, it was reported. In the process, a washer designed by Monsanto researchers gets the strawberries clean without mashing them.

El Dorado N. Y. Office

El Dorado Oil Works, Oakland, Calif., plans to maintain bulk stocks of coconut oil in the New York area to meet requirements by East Coast customers, according to a recent statement by James Moller, company

president. The company, which recently closed down its Bayonne, N. J. mill because it was found unprofitable to crush Philippine copra on the East Coast, will set up an office in New York for sale of crude and refined coconut oil and for various coconut oil fatty acids and derivatives, Mr. Moller said. Until the new arrangements have been completed, offices and stocks will continue to be maintained at the Bayonne site. The office in New York will be under the management of Elliot W. Hagen.

Becco Offers Na Perborate

Availability in quantity of sodium perborate, containing 10 per cent of active oxygen by weight, was announced recently by Buffalo Electro-Chemical Co., Division of Food Machinery & Chemical Corp., Buffalo, N. Y. Formulations of household detergents and bleaches, and of tooth powder are among the uses of this compound. Chemical and physical properties, handling instructions, and further information concerning uses of sodium perborate are contained in Becco's Technical Bulletin No. 45.

Wyandotte Shifts Firing

Appointment of Arthur J. Firing as manager of its Boston district, was announced recently by Wyandotte Chemicals Corp., Wyandotte, Mich. Prior to his new appointment, Mr. Firing was sales and service supervisor in Dayton, O.

Congratulations are extended by H. Paul Grimm, right, president of Los Angeles Soap Co., Los Angeles to W. J. Tormey, upon the latter's appointment to the position of vice-president and director of sales and advertising. Mr. Tormey's appointment was announced on his 17th anniversary with White King Soap Co., parent firm. In his new position, he supervises all sales, advertising, budget, washing machine promotion and industrial departments.



New "Orvus AB" Granules

The availability of "Orvus AB" granules, a 40 percent type neutral alkyl aryl sulfonate synthetic detergent base material designed for converters, was announced recently by the bulk soap sales department of Procter & Gamble Co., Cincinnati. The granules are a blown product in bead form, and similar in structure to a sponge rather than more common hollow spheres. This is designed to minimize breakage and dusting. "Orvus AB" granules are said to pour freely with no heavy dusting. They are claimed not to gum mechanical mixers on hot humid days, and to blend easily for uniform products. The maker claims the beads to be non-irritating to the skin. Information regarding specific applications and formulas is available by writing the Bulk Soap Sales Dept. at P.O. Box 599, Cincinnati, O.

Hide Assn. Honors Wise

Frank Wise, who has served for 18 years as executive secretary of the nation's independent inedible animal fat producing industry, received the Distinguished Award Certificate presented at the ninth annual convention of the National Hide Association held recently at the Shamrock Hotel, Houston. According to the certificate presented to Mr. Wise, the award was made "in recognition of outstanding achievement and extraordinary service rendered to the hide and leather industry of the United States."

IN SOAPS...

...your repeat sales are made
RIGHT HERE

*...where GIVAUDAN odors
build product appeal*

Regardless of its excellent lathering and cleansing properties, no soap wins repeat sales unless it has a truly appealing odor.

Choose your soap perfumes wisely, with the help of GIVAUDAN...odor experts with many years of soap-scenting experience... developers of perfumes for many of the most highly successful soaps in the modern market.

We are at your service in any matters relating to odors for cleansing or sanitary products.



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Branches: Philadelphia • Boston • Cincinnati • Detroit
Chicago • Seattle • Los Angeles • Toronto

SOAP and SANITARY CHEMICALS

Chemurgic Names Larner

Election of Herbert B. Larner as president was announced recently by Chemurgic Process Corp. of College



HERBERT B. LARNER

Point, N. Y. Chemurgic Process Corporation is engaged in the design, engineering and construction of chemical and other processing plants for concerns in the soap, fatty acid, chemical

and other industries. Previously he was associated with M. W. Kellogg Co., New York, where he initiated its program of research and pilot plant development. Prior to this position, he was with S. B. Penick & Co., New York, where he conducted the marketing of fish oils and fine chemicals.

Magnus Returns Home

J. B. Magnus, vice-president, Magnus, Mabey & Reynard, Inc., New York, recently returned to the U. S. on the *Nieuw Amsterdam* after completing an extended business trip abroad.

New Oxydol Detergent

A new package and formula for "Oxydol" as a detergent were announced recently by Procter & Gamble Co., Cincinnati. An introductory seven week campaign was launched May 11, using a minimum of 10 to 15 spot radio announcements in each market.

Boyd Emery Vice-Pres.

Election of K. K. Boyd to the newly created post of vice-president in charge of sales and purchases,



K. K. BOYD

was announced recently by J. J. Emery, president of Emery Industries, Inc., Cincinnati. Mr. Boyd was formerly director of sales and purchases. Starting as a marketing specialist 18

Fritzsche Honors McNamara

A cocktail party and dinner in honor of James H. McNamara, dean of the sales staff of Fritzsche Brothers, Inc., New York, was held recently by his firm, at the New York

Athletic Club. The occasion was Mr. McNamara's retirement from active duty after 35 years with the company. Participating in the celebration included the firm's top executives headed by Frederick H. Leonhardt,

chairman of the board, John H. Montgomery, president, H. P. Wesemann, Dr. Ernest Guenther, Fred Leonhardt, Jr., and Joseph A. Huisking, vice-presidents. A total of 25 participated in the celebration.

Cocktail and dinner party in honor of James H. McNamara, retiring dean of the sales staff of Fritzsche Brothers, Inc., held recently at the New York Athletic Club, New York. Those present (reading clockwise from center foreground): Mrs. Elizabeth Adelman, Thomas J. Coyle, Ray Thompson, Arthur Howlings, Robert Krone, Fred. Hilbert, R. W. Wilmer, Dr. E. H. Hamann, Kenneth W.

Tracy, Charles Schneider, Mrs. Theresa Sposter, Ellis Merkl, D. A. Neary, Dr. Ernest Guenther, Mrs. Marion McNamara, John H. Montgomery, Jim McNamara, F. H. Leonhardt, Miss Mary Neary, Fred Leonhardt, Jr., H. P. Wesemann, Michael McNamara, Joseph A. Huisking, Gus Wohlfort and E. P. McDonough. Twenty-five persons participated in Mr. McNamara's retirement party.





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CHECK YOUR NEEDS
FROM THIS LIST

VEGETABLE OILS

Babassu	Olive
Castor	Palm
Cocoonut	Peanut
Corn	Sesame
Cottonseed	Soybean

ANIMAL FATS

Sperm Oil	Grease
Oleo Stearine	Tallow
Lard Oil	Lanolin
Neatsfoot Oil	

FATTY ACIDS

Red Oil	Tall Oil	Tallow
	Stearic Acid	
	Hydrogenated Fatty Acid	
	Cottonseed and Soybean	
	Fatty Acids	

ALKALIES

Caustic Soda, Solid, Liquid, and Flake
Soda Ash, Light and Dense
Carbonate of Potash, calcined and hydrated
Calcium Chloride
Tri Sodium Phosphate
Tetra Pyro Phosphate
Quadrafos Granular and Beads—a stable polyphosphate for water conditioning and mild but effective detergency.

Soapers have depended on WH&C
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SINCE 1838, we've been supplying the nation's "soapers" with basic raw materials.

SILICATE OF SODA—Liquid powdered and solid.

META SILICATE—"Metso"* Granular.

METSO* DETERGENTS—55, 66, 99.

MAYPONS—Unique surface active agents; prolific foam; high detergency and emulsifying powders; suitable for cosmetic and industrial use.

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Let us mix your dry private formulas

Established 1838

Welch, Holme & Clark Co., Inc.

439 WEST STREET NEW YORK 14, N. Y.
Warehouses in New York and Newark, N. J.

years ago, he assumed charge of all purchases, including the buying of fats. Subsequently he became director of purchases and sales, and was elected first a director and later secretary of the company. He holds a M.S. degree from Iowa State College at Ames, and is a member of the steering committee of the fatty acids division of the Association of American Soap and Glycerine Producers.

DCAT Meeting Chairmen

Lloyd I. Volckening has recently been named general chairman for the 63rd annual meeting of the Drug, Chemical, and Allied Trades Section of the New York Board of Trade to take place at Pocono Manor, Pocono, Penna., Sept. 24 to 27. Other committee appointments are as follows: chairman and vice-chairman, respectively, banquet, Stanley I. Clark and George S. McMillan; business program, Claude A. Hanford and Dr. Charles E. Dutches; evening entertainment, J. David Hayden and Donald S. Cushman.

Also, greetings, Charles M. Macauley; golf, Sydney N. Stokes and Harry C. McKenzie; ladies golf, Mrs. Edward G. Jacobi; ladies' card party, Hugh S. Crosson and R. P. Neptun; memorials, Russel J. Fosbinder; miscellaneous sports, W. Boyd O'Connor, Budley Dunlop, and F. M. Schwemmer. Publicity, Murray Breese and J. Wayne Luther; publications, Russell Boland and Richard Tomlinson; Thursday night reception, Ralph A. Clark and Howard B. Fonda; Saturday night reception, William W. Huisking and J. Paul Folsom; registration, Stephen F. Urban and Harold F. Cummings.

Tussy Holds Convention

Edward Plaut, president of Lehn & Fink Products Corp., New York, was the principal speaker at a sales convention of Tussy Cosmetics, held recently at the Hotel Madison, New York. The sessions were conducted by Paul Carey, general manager.

In attendance from New York were: A. R. M. Boyle, treasurer; Gerry Cannon, sales manager; Lee Smith and Don Stillman, assistant sales managers; Ralph Kleinschmidt, field sales manager; Teresa M. Hinz, director of promotion and product development; Gloria

John G. McNary, who rose from office boy to district sales manager during his half century with Colgate-Palmolive-Peet Co., Jersey City, N. J., was honored recently by the company and his associates at a 50th anniversary party in "21" Club, New York. E. H. Little, chairman of Colgate's board, right, presented an engraved gold watch to Mr. McNary on behalf of the company in honor of his service. From his associates, he also received government savings bonds, and a testimonial scroll.



Van Fleet, packaging director; Marie Copleston, educational director; William Hausberg, advertising manager; Ruth Ann Bolway, publicity director; Dr. Emil G. Klarmann, vice-president and manager of technical services; Florence Goldin, Ed Richer, Ed Weiss, Charles Rollins, Estelle McBride, Grey Advertising Agency.

Also attending were the following sales representatives, junior sales representatives and special representatives: Al Nelson; Charles Graham; Harold Cutting; Harry Tierney; Bill Turnage; Loretta Marshall; Frances Colmar; Penny Cavanaugh; George Hughes; Al Bergstrom; John Turcotte; Maury Higgins; Illin Butler; Ethel Johnson; Kay O'Dell; Hoyt Thompson; Len Weiss; Pete Morris; Herb Nash; Lorraine Robin; Vera Haling; Stella Smythe; Cora Colbert; Martha Foster; Arthur Roberts; Joe Robinson; Normand Godbout; Vic Fredholm; Jim Vanlandingham; George Kelleher; Eve Comstock; and Olive Boyd.

P&S Add 17th Affiliate

Polak & Schwarz, New York, recently announced the establishment of its 17th affiliated company in Doodeport, Johannesburg, South Africa. J. Ph. C. Wessing has been appointed as managing director. Continuing as local agents in South Africa are H. L. Hompes & Co., Capetown and Durban; D. Cohen, Port Elizabeth and G. Isenberg (Pty) Ltd., East London.

National Aniline Expands

National Aniline division of Allied Chemical & Dye Corp., New York, recently announced the filing of plans with the city to erect an office building at its Buffalo, N. Y. plant at a cost of \$130,000.

Horsey Radio Interview

R. E. Horsey, vice-president in charge of sales of Givaudan-Delawanna, Inc., New York, recently participated in a weekly radio program of the American Chemical Society. Mr. Horsey was interviewed by Edward J. Reardon of ABC on the subject of "... how pleasant aromas are finding new jobs in industry." The interview covered the use of odors in various industrial and household products such as waxes and polishes, paints, plastic materials, rubber products and other materials.

Drops Wildroot Charge

The Federal Trade Commission, Washington, D. C., recently announced it has dismissed without prejudice a complaint against Wildroot Co., Buffalo, charging the hair preparations firm with unlawful payments of advertising and other allowances.

Liquid Caustic Available

The availability of 50 percent strength liquid caustic soda from new storage and distributing facilities located at Weehawken, N. J., was announced recently by Hooker Electrochemical Co., Niagara Falls, N. Y. With storage capacity of over 1,000,000 gallons, the new facilities offer shorter delivery time for tank car caustic in the New York-Northern New Jersey area, than by rail directly from Niagara Falls, the company said.



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Theatres... Institutions... Churches... and all commercial, residential and industrial buildings*

Thousands of users repeatedly ask
for *Buckeye* **"SYND"**

**THE CONCENTRATED, NEUTRAL
SYNTHETIC DETERGENT CLEANING COMPOUND**

works wonders on . . .

- ALL floors, walls, woodwork
- develops a clean, fresh odor

This outstanding development from the Davies-Young research laboratories has been successfully tried and tested. Now thousands of users repeatedly ask for this amazing liquid detergent that cleans quickly, thoroughly, safely and economically.

BUCKEYE SYND actually dissolves dirt and soil. Just one simple demonstration will show your prospect the outstanding advantages of this wonderful concentrated cleaning compound. Sell BUCKEYE SYND for all cleaning jobs!

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. . . your assurance of a
quality product with guar-
anteed dependable results!



Buckeye Products are distributed
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Clip Coupon... Mail at Once

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Yes! We are interested in the sales and
profit-possibilities of "SYND." Rush
samples and literature today.

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Address _____

City _____ Zone _____ State _____

Uhe Returns from Europe

George Uhe, president of the New York company that bears his name, recently returned from eight weeks abroad. While pharmaceutical and chemical business is slightly lower this year, synthetic resins and insecticide chemical fields have made tremendous strides, he said. Also the demand for natural perfume raw materials in Grasse is greater than ever, he observed.

Colebaugh in New Post

Appointment of David C. Colebaugh, Jr., to the Chicago sales division, was announced recently by West Virginia Pulp and Paper Co., New York. In his new position, he assists John Ziesler, manager, in servicing the company's active carbon, tall oil and lignin accounts in the midwest. Mr. Colebaugh joined the company in 1945, and until his new appointment was research chemist in the firm's Nucliar Research Laboratory at Tyrone, Pa. Prior to joining West Virginia, he was associated with Hercules Powder Co., Wilmington, Del.

Drew Advances Pariser

Albert A. Pariser has recently been named division manager of the chemical specialties division, E. F. Drew & Co., New York, announced recently. He is in charge of the sale and distribution of all Drew laundry and dry cleaning products. He joined the company three years ago as a field salesman and became sales manager of the dry cleaning department in the latter part of 1952.

Lever Appeal Denied

An appeal by Lever Brothers Co., New York, for a rehearing on a tax case in which it was involved in the District of Columbia, was denied recently by the U. S. Court of Appeals, Washington, D. C. The court ordered the case returned to the Board of Tax Appeals for its determination of Lever's taxable income. Lever Brothers were held taxable by reason of its control of "Pepsodent" after it was shipped to the District of Columbia and the control of its agents doing business in the district. Under the District's law, any corporation is subject

to the income tax if it retains control of the sales of tangible personal property through an office, warehouse, officer, agent or representative having a place of business in the district.

To Build New V-C Plant

Plans for the construction of a new production unit at Fernald, O., for the manufacture of phosphoric acid, sodium tripolyphosphate and other sodium phosphates were announced recently by Joseph A. Howell, president of Virginia-Carolina Chemical Corp., Richmond, Va. The V-C plant will be located in the vicinity of the new Atomic Energy plant and the Miami Research Laboratory of Procter & Gamble Co., Cincinnati. Other company plants are located in Charleston, S. C., and in Nichols, Fla., where the firm is currently constructing an advanced type of contact sulfuric acid plant, a wet process phosphoric acid plant with provision for uranium extraction, and a complete triple superphosphate unit.

Firm Honors Stults

A luncheon in honor of his 55 years of service with the firm was tendered recently to Elias D. Stults, president, by Welch, Holme & Clark Co., New York. Mr. Stults started working for the company on Aug. 1, 1898 and was appointed president in 1930. The company was established in 1838 as distributors of oils, fats and chemicals and has been in continuous operation for 115 years.

ELIAS D. STULTS



Columbia Shifts Personnel

A number of changes in executive personnel have recently been announced by Columbia-Southern Chemical Corp., a subsidiary of Pittsburgh Plate Glass Co., Pittsburgh. E. W. Haley, director of sales, Pittsburgh, has been named assistant to the vice-president with headquarters in New York. Mr. Haley administers Columbia-Southern's export program and, in addition, handles special assignments from the vice-president.

C. F. Bingham, assistant director of sales, has been named director of sales, with headquarters in Pittsburgh.

In the market research and development department, C. J. Stroemple, acting manager of calcium hypochlorite sales, has been named assistant to the manager; Foster G. Garrison has been advanced from technical representative to assistant to the manager, and Keith S. Potts has been named statistician.

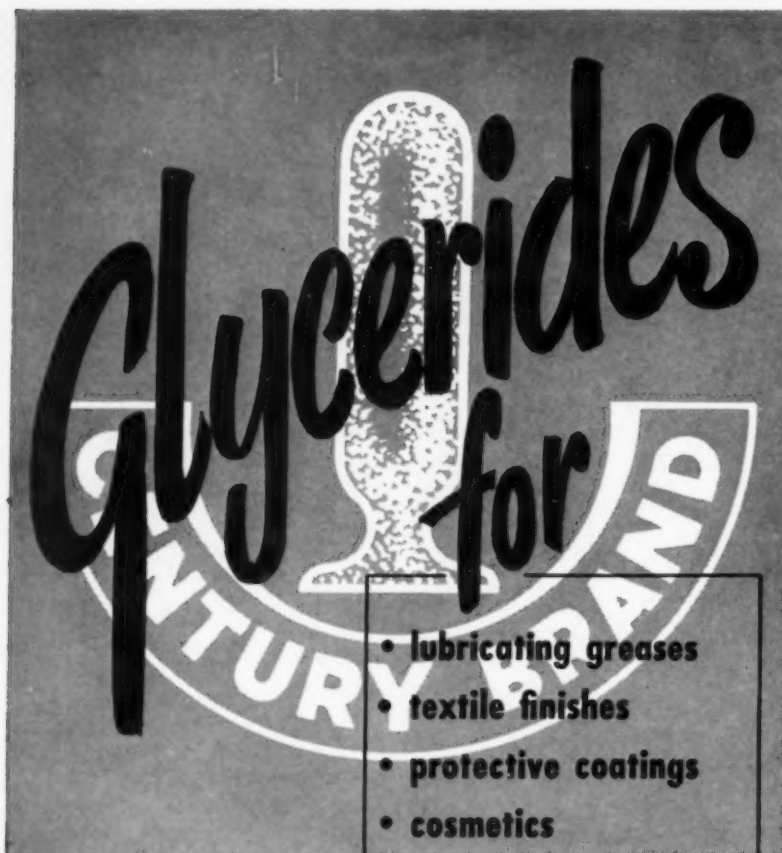
L. C. Bell has been transferred from the plant development department, Natrium W. Va., to sales in the calcium hypochlorite department, Pittsburgh.

Bars Unfair Trading Stamps

A permanent injunction, to which the defendants have consented, was issued by a U. S. District Court in Roanoke, Va., prohibiting Garland Drug Stores from selling trade-marked products below fair trade minimum prices and from issuing trading stamps with the same object, according to a recent announcement by Harvey M. Manss, vice-president of Sterling Drug, Inc., New York. Action against the Roanoke druggists was brought by Sterling under the state's Fair Trade Act, and charged the stores with violating minimum resale prices of "Molle Brushless Shaving Cream" and other Sterling trade-marked brands.

Bon Ami Net Profit Up

Bon Ami Co., New York and its subsidiaries recently reported that it earned at the end of six months in 1953 a net profit of \$70,422, equal to 79 cents a common share, compared with \$61,558, or 65 cents a share, in 1952.



- lubricating greases
- textile finishes
- protective coatings
- cosmetics
- pharmaceuticals
- candles
- leather dressings, etc.

■ **CENWAX G** (Hydrogenated Castor Oil)

CENWAX G is a glyceride chemically, although physically it resembles a wax. It is a hard, high melting point solid, available in finely beaded form, with practically no taste or odor. Typical applications are in lithium, barium or sodium greases; hot-melt paper coatings; extender for higher priced waxes in polishes. These CENWAX G specifications should suggest other uses:

F. F. A. (as Oleic Acid)	2.0 max.
Acid Number	4.0
Saponification Number	176-184
Iodine Value (WIJS)	1- 5
Melting Point (°C)	82- 85
Hydroxyl Value	155-165
Acetyl Value	137-148

■ **CENTURY HYDREX 360** (Hydrogenated Tallow Glyceride)

This hardened tallow product is available in beads and its good color, high titre and low iodine value particularly suit it for use in certain textile finishes and lubricating greases.

Specifications	
Titre	(136.4-140.0°F) 58-60.0°C
Iodine Value (WIJS)	1-3
Free Fatty Acid	1-3%
Acid Number	2-6
Saponification Value	190-195
Color 5¼" Lovibond Column (Max.)	15 Yellow-2 Red

W. C. HARDESTY CO., Inc.

Century Stearic Acid Products, Inc.

41 East 42nd Street, New York 17, N. Y.

Plant: Dover, Ohio

In Canada: W. C. Hardesty Co. of Canada Ltd., Toronto

AOCS Fall Meeting Plans

Plans for the fall meeting of the American Oil Chemists' Society to be held in Chicago, Nov. 2-4, at the Sherman Hotel, were announced recently by A. F. Kapecki, general chairman. A program committee has been set up under H. T. Spannuth of Wilson and Co., Chicago, as chairman; E. L. Boley, soaps and detergents, and H. J. Harwood, fatty acid derivatives, both of Armour and Co., Chicago; H. C. Black, industrial processes, and K. F. Mattil, student session, both of Swift and Co., Chicago; H. R. Kraybill, American Meat Institute Foundation, Chicago; C. G. Moore, Nubian Paint Co., Chicago; and S. J. Rini, Kraft Foods Co., Glenview, Ill.

Besides information about the fall meeting, the society announced that it held a short course on the engineering aspects of oilseed processing at Texas A & M College, July 27-31, with J. D. Lindsay as chairman.

Canadian C-P-P Fetes Vint

Charles R. Vint, president of Colgate-Palmolive-Peet Co., Toronto, was the guest of honor at a reception held recently in Toronto, to mark his 50th anniversary with the Colgate organization. Mr. Vint helped organize the Canadian company 40 years ago. The parent company's board chairman, E. H. Little, and presidents of Colgate-Palmolive-Peet Co., Jersey City, N. J., and Colgate-Palmolive International, Joseph H. McConnell and William L. Sims, II, respectively, attended the reception.

Mr. Vint began his career as an office boy for B. J. Johnson Soap Co., in Milwaukee, Wis., the firm which later became the Palmolive Co. He advanced to become traffic manager, and later was sent to Toronto to organize a new branch of the firm. He was elected vice-president and general manager of the Canadian company in 1917, and in 1940 he became president and general manager.

Directs Palmolive Account

Appointment of David Ketner as account executive on the "Palmolive" soap account, was announced recently by Ted Bates & Co., New York. He formerly was advertising

manager of the Pepsodent division, Lever Brothers Co., New York. Prior to that, he was with Procter & Gamble



DAVID KETNER

Co., Cincinnati and McCann-Erickson Co., New York.

Coty Buys Lucien LeLong

Coty, Inc., New York recently announced that it has purchased the controlling interest in Societe des Parfums Lucien LeLong, Paris, and in Lucien LeLong, Inc., an Illinois corporation, with offices in Paris, New York, Chicago and Los Angeles. Joseph S. Stein, president of the acquired firm since its inception in 1927, continues in that post. No change in present policies are contemplated. Coty also announced that in taking control of the Lucien LeLong business in the U. S. and abroad, it has not purchased the building owned by the latter, consequently making necessary formation of a new corporation known as the Lucien LeLong Co.

New Lifebuoy Scent

A full scale promotion and advertising campaign for "Lifebuoy," with emphasis on a new deodorizing feature and changes in both color and odor of the product, was announced recently by Lever Brother Co., New York. Special deodorizing feature of the soap, according to the firm, is "Puralin," which is claimed to be retained on the skin after bathing. Color has been changed to coral pink. Lever announced that the campaign for the soap is being spotlighted on radio, TV, in Sunday supplements, and in newspaper advertising.

Gair Names Bowen

Robert Gair Co., New York recently announced the appointment of George A. Bowen, Jr., as assistant manager. Mr. Bowen was formerly in the advertising department at Otis Elevator Co.

New Toni Executives

Wilmore H. Miller has been made vice-president for operations and Stuart K. Hensley has been made vice-president for sales, advertising and brand promotion, Toni Co., Chicago, announced recently.

Solvay Fills Post

Appointment of an assistant to the executive vice-president, and two transfers within the engineering department, were announced recently by Solvay Process division, Allied Chemical & Dye Corp., New York. I. H. Munro, who has been chief engineer nearly two years, takes over the post of assistant to Carlton Bates, Solvay's executive vice-president. Mr. Munro is located at the company's New York office.

As a result of Mr. Munro's new assignment, Raymond Largent has been named chief engineer, with William D. Dugan, Jr., being appointed assistant chief engineer. Both men are headquartered at the company's Syracuse, N. Y., office.

BIMS of Boston Golf

Bims of Boston are holding their second golf tournament of 1953 at the Dedham (Mass.) Polo and Country Club, on Aug. 13, Hart Harris, Jr., S. B. Penick & Co., New York, announced recently. The group held their first outing at the Weston, (Mass.) Golf Club on June 24. Golf prizes were won by Henry Dillon, Jr. of Rustmaster Chemical Co.; Hugh Titus of Merck and Co.; Jack Vanderwater of R. W. Greeff Co.; and Dr. Edward Hoffman of Unity Feeds.

Door prizes were won by E. P. Bement, of B. B. Chemical Co.; F. J. Harler, Jr. of Whittaker Clark and Daniels, Inc.; Granville M. Neal of Eclipse Food Products; and L. Carpenter of Better Brushes, Inc.

NOT A BOMB!

**NOT A SMALL
12 OZ. PACKAGE!**

**But Twelve
32 oz. Bottles**

**with a rugged
industrial size
metal sprayer**

**3 FULL
GALLONS**

Aqua-Sheen

Non-Inflammable Dust Mop Treatment

Think of it! Three full gallons in every case. Here is a most convenient way of using AQUA-SHEEN — and economical, too!

A rugged, powerful metal hydraulic sprayer included FREE with each case of 12 quarts! With this metal sprayer dust mops can be treated evenly. Also handy for treating dust cloths, blackboard erasers or spraying on surfaces for light cleaning jobs.

AQUA-SHEEN — THE STABLE HOMOGENIZED DUST CONTROL WITH UNDERWRITERS' LABORATORIES APPROVAL. Give your dust mops magic magnetic properties. Dust particles adhere to the mop just like steel filings on a magnet! Mops are easily rinsed clean because AQUA-SHEEN is self-emulsifying.

Every single one of your customers is a prospect for at least one case of AQUA-SHEEN quarts. Extra sprayers are available for your larger customers.

**PACKED 12 QTS.
TO THE CASE**

\$24⁰⁰
CASE

LESS
GENERAL
DEALER
DISCOUNT

JAMES VARLEY & SONS, INC.

1200 Switzer Ave., St. Louis 15, Mo.

Please ship us _____ cases AQUA-SHEEN
in quart bottles with full discount.

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FIRM _____

ADDRESS _____

CITY _____ STATE _____



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**The Only Product of
Its Kind Approved By
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DUST MOP TREATMENT

Gives mops the phenomenal magnetic power to pick up all dust and dirt deposits!



BLACKBOARD CLEANER

Treat erasers with AQUA-SHEEN and blackboards will be permanently BLACK without any chalk dust!



WINDOWS SPARKLE...

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Spray glass with AQUA-SHEEN, polish with cloth for a real sparkling shine. Treat dust cloth with AQUA-SHEEN and keep furniture looking new!



**LABORATORY
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PRODUCTS**

Bids and AWARDS

FSS Soap Award to Orford

Orford Soap Co., New York, received the award on 32,000 cakes of grit soap with a bid of 2.5 cents each, in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C.

Iowa Low Bidder

In a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C., the low bid of 4.26 cents on 80,100 pounds of laundry chip soap, f.o.b. origin, was made by Iowa Soap Co., Burlington, Iowa.

Mechanics Soap Awards

Awards on hand scouring soap powder in a recent opening for miscellaneous supplies by the Quartermaster, New York City, were won by the following firms: Armour & Co., Chicago, 57,342 pounds, 7.92 cents, total \$4,541.49; Diamond Chemical Co., Maspeth, N. Y., 418,513 pounds, 7.89 cents to 10.616 cents, total \$39,793.86; Tennessee Soap Co., Memphis, Tenn., 40,145 pounds, 7.804 cents, total \$3,132.92.

Navy Insecticide Bid

The low bid of 8.08 cents on 1,200,000 pounds of insecticide dusting powder in a recent opening for miscellaneous supplies by the Navy Purchasing Office, New York, was submitted by California Spray-Chemical Co., Richmond, Calif.

Bar Soap Awards

An opening for miscellaneous supplies by the Quartermaster, New York, included 8,657,000 bars of ordinary issue soap. The following firms received awards: Procter & Gamble Co., Cincinnati, 4.37 cents each, 2,475,000 bars; Newell Gutrad Co., San Francisco, 4.91 cents each, 360,000 bars; Pioneer Soap Co., San Francisco, 4.74 cents each, 450,000 bars; Newport Soap Co., Oakland, Calif., 5.05

cents each, 500,000 bars; Colgate-Palmolive-Peet Co., Jersey City, N. J., 5.15 cents each, 4,872,000 bars, total \$423,321.50.

Avon Low Dentifrice Bids

The Veterans Administration, Washington, D. C., included dentifrice, item one, 2,520 dozen tubes, item two, 2,495 dozen tubes, and item three, 4,200 dozen tubes in a recent opening for miscellaneous supplies. Avon Products, Inc., New York, submitted the low bids of 82 cents on item one; \$1.01 on item two, and 88 cents on item three.

P.O. Award to Theobald

In a recent opening for miscellaneous supplies by the Post Office Department, Washington, D. C., the award on 60,000 pounds of cleaner was won by Theobald Industries, Harrison, N. J., with a bid of 6.35 cents per pound.

Disinfectant Award

Helene Curtis, Inc., Chicago, won the award in a recent opening for miscellaneous supplies by the Quartermaster, New York, on chlorine disinfectant with the following bid: item a, 26.6864 cents, item b, 27.1235 cents, and item c, 27.0517 cents, total \$48,752.85.

Awards in FSS Soap Bid

On a soap bid included in a recent opening for miscellaneous supplies by the Federal Supply Service, Dallas, Tex., the following firms received awards: Federal Chemical Co., Chicago, 16,560 pounds at 8.3 cents, and 4,800 cans at 8.2 cents; Newell-Gutrad Co., San Francisco, 5,500 cakes, at 5.42 cents, 130 units, \$2.61, and 776 units, \$4.19; Swift & Co., Fort Worth, 54 units, \$8.19; Huron Milling Co., New York, 14,480 pounds at 11.1 cents; Moran Co., Dallas, 10,300 pounds at 8.24 cents, 12,600 pounds at 8.24 cents; 4,700

pounds at 7.4 cents, and 455 units, \$4.02; Dixie Disinfecting Co., Dallas, 20,016 blocks at 6.24 cents; Gillam Soap Works, Fort Worth, 408 units at 3.9 cents; Johnson Chemical Co., Baltimore, 130 units, \$6.31; Tesco Chemical Co., Atlanta, 25,200 pounds at 8.59 cents, 6,600 pounds at 3.45 cents, 9,744 units at 4.74 cents, 21,250 units at 4.54 cents, and 314 units at \$3.45; Thompson-Hayward Chemical Co., Kansas City, Mo., 25,600 units at 6.75 cents; Washington Chemical Sales, Washington, D. C., 24,100 units at 6.7 cents; Imperial Products, Philadelphia, 1,652 units, 32 cents; and Chemtex Div. of California, Los Angeles, 2,700 units at 32 cents.

QM Award to Stevens

The award on 50,000 pounds of soap powder in a recent opening for miscellaneous supplies by the Quartermaster, New York, went to Stevens Soap Corp., Brooklyn, N. Y., with a bid of 4.74 cents per pound.

Low Navy Cleaner Bids

The Navy Purchasing Office, New York, included in a recent opening for miscellaneous supplies 63,000 pounds of painted surface cleaner for a. Mechanicsburg, and b. Clearfield. Murro Chemical Co., Portsmouth, Va., submitted the low bid of 9.5 cents on item a, and Wyandotte Chemicals Corp., Los Angeles, of 11.3 cents on item b.

Mobile Detergent Award

The award on 487,000 pounds of mobile laundry detergent was won by Alex C. Ferguson Co., Philadelphia, with a bid of 19.25 cents to 19.45 cents, total \$94,071.51. This was part of a recent opening by the Quartermaster, New York.

Sweeping Compound Bid

The low bid of 1.68 cents on 111,000 pounds of type 1 sweeping compound was submitted by Puritan Chemical Co., Atlanta, in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C.

American Distilled Oils

Produced at our Brooklyn Factory

OILS

CLOVE	BALSAM PERU	OPOPONAX
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RESIN LIQUIDS

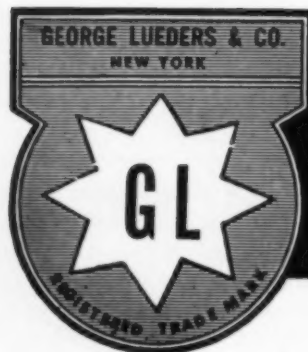
OLIBANUM	STYRAX
LABDANUM	BALSAM PERU
OPOPONAX	BALSAM TOLU
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Established 1885

SOAP and SANITARY CHEMICALS

NEW Trade Marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12(a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the *Gazette*. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of \$25 must accompany notice of opposition.

"Wiff"—This for insecticides. Filed Jan. 14, 1953 by Jasgo Chemical Co., Brooklyn. Claims use since Apr. 22, 1951.

Rusko—This for water softening compound. Filed Mar. 20, 1953 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since Dec. 2, 1952.

Cuticura—This for shampoo. Filed Oct. 6, 1950 by Potter Drug & Chemical Corp., Malden, Mass. Claims use since Apr. 15, 1949.

Nonic—This for liquid non-ionic synthetic detergents. Filed May 31, 1951 by Sharples Chemicals, Inc., Philadelphia.

Yogolin—This for toilet soap, liquid and cream shampoo. Filed Oct. 18, 1951 by Gaymont Laboratories, Inc., Chicago. Claims use since Aug. 21, 1951.

Hitsit—This for detergent. Filed Nov. 17, 1951 by Cooperstown Chemical, Inc., Cooperstown, N. Y. Claims use since Jan. 20, 1951.

Ho-zof—This for degreasing compound. Filed Feb. 5, 1952 by R. M. Hollingshead Corp., Camden, N. J. Claims use since November 1938.

Bleach-Ox—This for disinfectant, bleach cleanser, and deodorant. Filed Apr. 8, 1952 by Wonder Chemical Co., Trenton, N. J. Claims use since Jan. 1, 1929.

Ola—This for soap. Filed Apr. 21, 1952 by Colgate-Palmolive-Peet Co., Jersey City, N. J. Claims use since Mar. 11, 1952.

Stan-Care—This for liquid surgical hand soap. Filed May 20, 1952 by Stanley Home Products, Inc., Westfield, Mass. Claims use since Feb. 26, 1952.

Tonicool—This for shampoo. Filed May 24, 1952 by Erlen Products Co., Burbank, Calif. Claims use since 1939.

Jabon de Patchuli—This for soap. Filed July 30, 1952 by Nidia Botanical Garden, New York. Claims use since Oct. 18, 1940.

Speedip—This for removing varnish from metals. Filed Oct. 16, 1952 by E-Z Est Products, Oakland, Calif. Claims use since Aug. 22, 1952.

Chlor-o-scent—This for insecticides and household deodorants.

Filed May 7, 1952 by Henry Carson, Flushing, N. Y. Claims use since March 22, 1952.

Mouse Party Mix—This for rodenticides. Filed July 29, 1952 by Rose R. Newgren, Gates Mills, O. Claims use since March 4, 1952.

Barco Products—This for cleaning compounds for cleaning all types of surfaces. Filed May 4, 1951 by W. M. Barr & Co., Memphis, Tenn. Claims use since Jan. 21, 1947.

Food For Fabrics—This for dry-cleaning preparations. Filed Sept. 13, 1951 by Adco, Inc., Sedalia, Mo. Claims use since 1938.

Arkansas—This for detergents, soaps and scouring agents. Filed Apr. 7, 1952 by Arkansas Co., Newark, N. J. Claims use since 1912.

American Family—This for soluble cleaner, cleanser, and detergent. Filed Aug. 27, 1952 by Procter & Gamble Co., Cincinnati. Claims use since Jan. 1, 1939.

Por-so-kleen—This for liquid cleaner for toilet bowls. Filed Oct. 2, 1952 by Stellad Products, Indianapolis. Claims use since Feb. 3, 1949.

Ting—This for germicidal soap. Filed Sept. 19, 1952 by Pharma-Craft Corp., New York. Claims use since Nov. 12, 1946.

Waxon—This for polishing wax in paste form for floors, furniture, linoleum, woodwork and the like. Filed Dec. 11, 1948 by Schalk Chemical Co., Los Angeles. Claims use since Nov. 1, 1948.

BFG—This for liquid and paste polish for automobiles, furniture, leather, and the like. Filed July 21, 1949 by B. F. Goodrich Co., New York. Claims use since November 1946.

Lusto—This for compound for polishing copper, stainless steel, chrome, brass, and like metals. Filed Sept. 14, 1950 by Lusto Co., Chicago. Claims use since May 20, 1950.

Glo-sheen—This for polish for all painted, enameled, varnished, and shellacked wood and metal surfaces. Filed Apr. 18, 1952 by J. R. Watkins Co., Winona, Minn. Claims use since March 19, 1952.

Beamax—This for liquid floor wax. Filed Sept. 3, 1952 by Davies-Young Soap Co., Dayton, O. Claims use since Nov. 13, 1931.

Sani-black—This for shoe polish. Filed Oct. 30, 1952 by Hollywood Shoe Polish, Inc., Richmond Hill, N. Y. Claims use since March 30, 1952.

Kencork—This for wax for preserving and polishing cork and wood floors. Filed Dec. 8, 1952 by Kentile, Inc., Brooklyn. Claims use since June 10, 1939.

Red Dot—This for extermination of roaches, water bugs, and other insects. Filed May 20, 1950 by Red Dot Laboratories, Florence, S. C.

Claims use since Jan. 10, 1950.

d-Con Lurex—This for rodenticide—Filed Nov. 29, 1951 by d-Con Co., Chicago. Claims use since Jan. 12, 1951.

Chloro-lite—This for odor dispersing candle. Filed Sept. 3, 1952 by Repello Products Co., Chicago. Claims use since Nov. 14, 1951.

Roach-Fel—This for insecticides. Filed Jan. 30, 1953 by Reefer-Galler, Inc., New York. Claims use since Oct. 2, 1952.

Finesse—This for hair shampoo. Filed Aug. 20, 1952 by Jules Montenier, Chicago. Claims use since July 1931.

Tall-Story—This for shaving soap. Filed Sept. 3, 1952 by John Hudson Moore Co., New York. Claims use since Aug. 14, 1952.

Anti-Zyme—This for dentifrice. Filed Nov. 8, 1952 by Lambert Co., St. Louis. Claims use since Oct. 24, 1952.

Laurylin—This for dentifrice. Filed Dec. 8, 1952 by Lambert Co., St. Louis. Claims use since Nov. 26, 1952.

Zymedent—This for dentifrice. Filed Feb. 24, 1953 by Lambert Co., St. Louis. Claims use since Feb. 16, 1953.

Pronto—This for bowl cleaner and drain opener. Filed Oct. 4, 1950 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since July 19, 1921.

First Lady—This for hand soap, shampoo, household washing compounds. Filed Feb. 9, 1951 by Arkwright, Inc., New York. Claims use since May 1, 1930.

Deterg-N-Suds—This for detergent. Filed Oct. 4, 1951 by Michael Modrak, Gary, Ind. Claims use since Sept. 24, 1951.

Zip—This for rust and stain remover. Filed Oct. 10, 1951 by Zip Products Co., Clyde, O. Claims use since Aug. 24, 1951.

Texapine—This for liquid cleanser, disinfectant, and deodorant. Filed Feb. 18, 1952 by West Disinfecting Co., Long Island City, N. Y. Claims use since Feb. 1, 1937.

Grease-Go—This for granular compound which removes grease and oil from floors. Filed May 23, 1952 by Denison Mfg. Co., Asheville, N. C. Claims use since March 24, 1948.

Elraco—This for soot removing chemical preparation. Filed May 28, 1952 by Elraco Engineering Co., Hoboken, N. J. Claims use since November 1946.

Killdust—This for sweeping compound. Filed June 23, 1952 by International Sisal Co., Minneapolis. Claims use since Jan. 1, 1922.

Packer's Charm—This for soap. Filed July 9, 1952 by Packers Tar Soap, Inc., Mystic, Conn. Claims use since 1877.

Dickey—This for auto body washing compound. Filed July 14, 1952 by Dickey Manufacturing Co., St. Louis. Claims use since 1935.

**94.9% of Lockheed's 50,000
employees are enrolled
in the Payroll Savings Plan**

ROBERT E. GROSS

*President, Lockheed Aircraft Corporation
National Chairman, 1953 Aircraft
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Lockheed Aircraft Corporation recently conducted a person-to-person canvass that put a Payroll Savings Application Blank in the hands of every employee of Lockheed's eleven plants in Southern California. At the conclusion of this one-week campaign, 36,419 of the 38,037 employees—95.7%—had signed up on the Payroll Savings Plan. Three of the eleven plants achieved 100% enrollment.

Lockheed's 95.7% in the Southern California plants is the highest employee participation of any company or group of this size this year. The previous national record in the aviation industry—92%—was set by Lockheed's Georgia Division in April, 1953. Of Lockheed's total payroll—50,000 men and women—94.9% are building "... security—both individual and national" by systematic investment in U.S. Savings Bonds.

45,000 companies operate Payroll Savings Plans. In many of these companies employee participation ranges from 60% to 80%; in some, it is even higher. On the basis of Payroll

Savings Records, it is safe to estimate that 60% or more of the personnel of a company will join the Payroll Savings Plan—

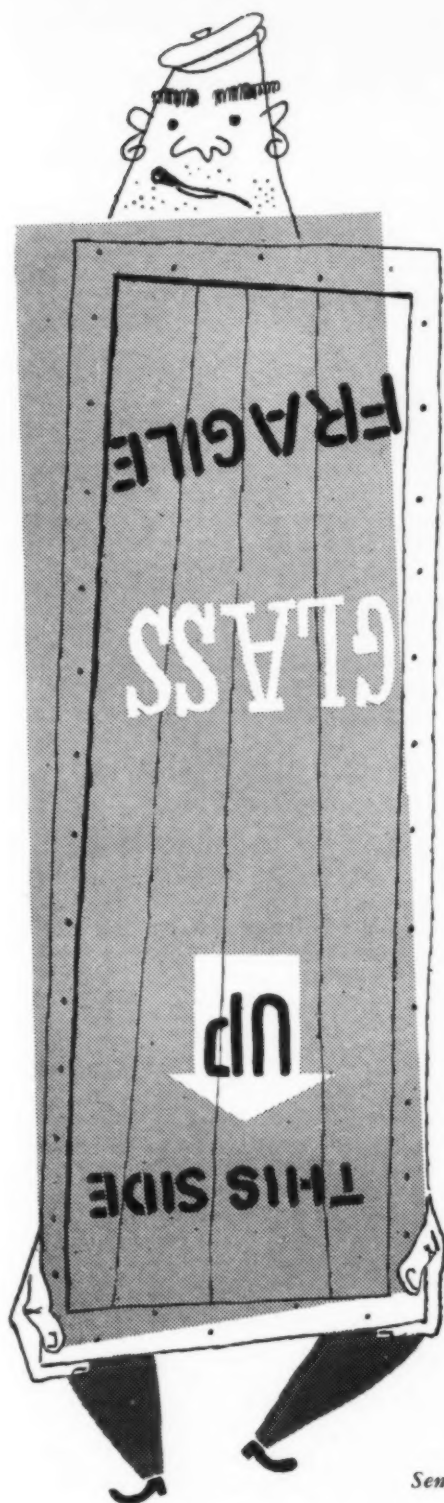
- if the many personal benefits of the Payroll Savings Plan are properly presented to them by management.
- if they are shown how their monthly investment in Savings Bonds contributes to national stability by adding to our reservoir of future purchasing power —\$35.5 billion—the cash value of outstanding Series E Bonds—the kind purchased by Payroll Savers.

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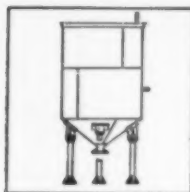
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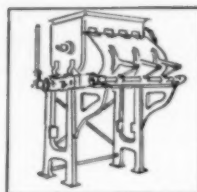
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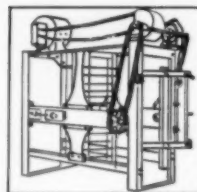
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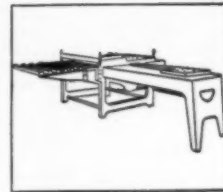
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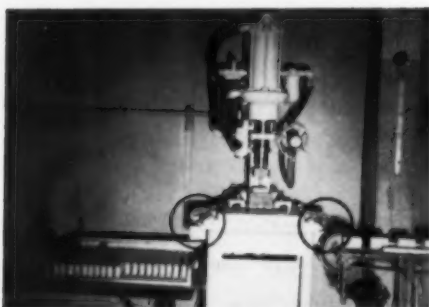
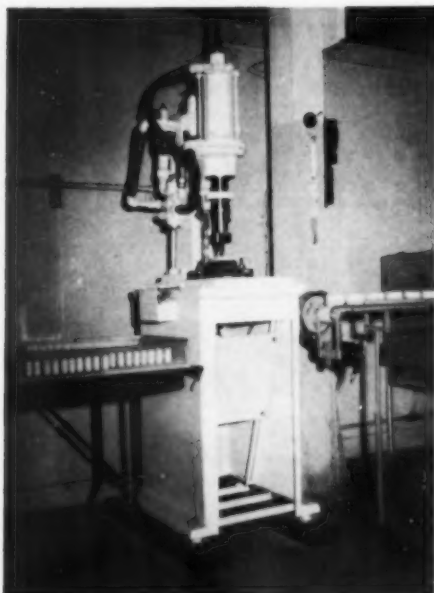
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NEW IMPROVED MODEL B

Note the safety automatic hand levers on each side of the press, away from the die position. Both hands must be used to depress the right and left hand control levers simultaneously in order that the air ram may function.

HOUCHIN builds all the kindred machinery needed for completely automatic, continuous or intermittent, soap production.

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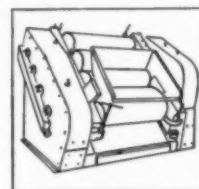
Uniformity of Pressing Is Positive. Dangerous, old fashioned, tiring foot lever controls are eliminated. The operator remains comfortably seated. The actual pressing and ejection operations are, although manually controlled, completely automatic.

Hourly and Daily Production Is Greater. Operators soon learn the simple, safe routine of feeding blanks to either Box or Pin Dies.

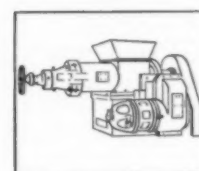
The Element of Human Fatigue is eliminated, with consequent gain in efficiency, speed, and safety of production.

Surface Pressures up to 2500 lbs. are attained by a simple thumb and finger valve adjustment. Either single or multiple air ram strokes are made at will by the operator.

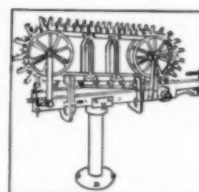
No operator injuries have ever been reported during the four years that this SAFETY AIR PRESS has been on the market.



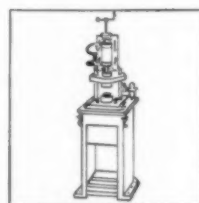
MILLS



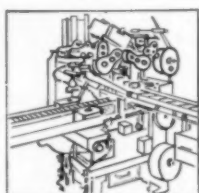
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Production SECTION

Colorimetric Determination of

EDTA in Soaps and Detergents

IN recent years ethylenediamine tetraacetic acid or EDTA has found important applications as a sequestering agent in soaps and detergents (1,2,3,4,5,6,7,8,9). Concentrations in such products may vary from as little as 0.001 to as much as 10 per cent. Where the concentration is high, the ethylenediamine tetraacetic acid is present usually and almost exclusively as a sodium or potassium salt; where the concentration is low, however, much or all of the EDTA is present as calcium, magnesium or heavy metal chelates. While the sodium, potassium and ammonium salts have water softening action, the chelated compounds do not.

Analytical methods for determining EDTA and its sodium salts have been described (9, 10) but these are not satisfactory for determining chelated (combined) "Sequestrene."*

A method for determining total ethylenediamine tetraacetic acid (chelated and non-chelated) has been described by the author (11). This method is based on the observation that nickel will displace calcium, magnesium and most other normally encountered metals from their EDTA complexes; nickel also combines with free EDTA. Excess nickel is precipitated with dimethyl glyoxime and removed. The nickel is then liberated from the nickel-EDTA complex on acidification and after reacting with dithiooxalate is determined colorimetrically as red nickel dithiooxalate. The intensity of the red color is proportional to the ethylenediamine tetraacetic acid present. As the alkali metal or ammonium salts of EDTA may be determined by the Schwarzenbach procedure, it now becomes possible to determine total, combined and non-com-

By Albert Darbey

Alrose Chemical Co.

bined ethylenediamine tetraacetic acid. This paper described the application of this method (11) to the analysis of soap and detergent products.

The method may — in general — be applied to the determination of other metal complexing compounds that are related to EDTA in chemical structure and properties.

Reagents and Solutions

C.p.Calcium acetate monohydrate.

44 grams per liter distilled water.

C.p.Nickelous sulphate hexahydrate.

13.3 grams per liter distilled water.

C.p.Aqueous ammonia (28%).

C.p.Dimethyl glyoxime. 1.5g in 100 ml ethanol or 3A denatured alcohol.

C.p.Concentrated hydrochloric acid.

Potassium dithiooxalate (Eastman) 0.25% aqueous solution, freshly prepared.

C.p.Sodium acetate trihydrate.

Commercial sodium stearate flakes.

Commercially pure "Sequestrene AA" (EDTA) Alrose Chemical Co.

Standard solution of "Sequestrene AA" (EDTA):

Accurately weight 1.0 gram of "Sequestrene AA" into a beaker. Add about 50 ml distilled water and sufficient sodium or potassium hydroxide to bring the EDTA into solution as the trisodium salt. About 0.411 gram sodium hydroxide or 0.575 gram potassium hydroxide (10 ml of a normal alkali solution) will be required for 1.0 gram "Sequestrene AA." The solution is made up to one liter with distilled water in a volumetric flask.

This standard EDTA solution is employed in preparing calibration curves or for use with the inter-

nal standard procedure.

1 ml = 0.001 gram (one mg.) EDTA.

Instrument

A BECKMAN Model B spectrophotometer employing 1 cm matched methacrylate plastic cells was the test instrument. Hydron short range pH papers were used for pH determinations.

Analytical Procedure for Stearate Soaps

DISSOLVE 100 mg of soap sample in 96-98 ml distilled water at 40°C; add 2.0-4.0 ml calcium acetate solution. Stir thoroughly and filter after five minutes standing. To 50 ml filtrate at 23-24°C adjusted to initial pH 6-6.5, add 7.5 ml nickel solution. After ten minutes add 2.5 ml ammonia. After five minutes add with stirring eight ml dimethyl glyoxime solution. After five minutes filter through No. 40 Whatman filter paper. To 50 ml of filtrate add 2.5 ml hydrochloric acid. (pH of solution—1). After five minutes add 10 ml potassium dithiooxalate solution. Allow the red color to develop fully for three minutes and then add one to two grams solid sodium acetate crystals to give pH of 3.5-4.5. Comparisons of the color intensity against suitable standards (11) or spectrophotometric measurements at 508 mμ in one cm cells are made without delay, or the colored test solutions are allowed to stand for 20 to 30 minutes and then filtered through asbestos before making measurements. A blank containing soap but no EDTA and treated in accordance with the procedure at the same time as the sample test solution, is used as a reference set at 100 percent transmittance (0 optical density). If

* Registered trade mark of Alrose Chemical Co., Providence, R. I., brand of ethylenediamine tetraacetic acid and its derivatives.

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the amount of EDTA present in a sample is too small to be satisfactorily determined in a 100 mg soap sample, the sample size may be increased to 200-300 mg of soap solids. For example, a test solution containing three mg EDTA and 300 mg commercial sodium stearate in 96 ml distilled water was treated at 40°C with four ml calcium acetate solution. A clear filtrate was obtained. The subsequent colored test solution showed 65 percent transmittance corresponding to three mg EDTA. Since this method is an empirical one, exact directions must be followed or exact proportional aliquots of all volume be used.

Preparation of Calibration Curves

A SUITABLE calibration curve is prepared from test solutions containing soap alone and soap plus known amounts of EDTA (added as the trisodium or tripotassium salt of EDTA) and treated according to the described analytical procedure. Spectrophotometric measurements are plotted on linear graph paper for an optical density vs. concentration curve or on semi-log paper for a transmittance vs. concentration curve.

Calibration for EDTA in Sodium Stearate

THE composition of typical calibration test solutions for EDTA in sodium stearate are shown in Table I.

Figure 1 is a typical transmittance calibration curve for "Sequestrene AA" (EDTA). Data from Table I.

Discussion

THE EDTA must be present as a soluble sodium or potassium salt. The adjustment of original test solution pH to 6-6.5 is made before and not after the addition of nickel solution. Filtrates of test solutions and blanks from the dimethyl glyoxime complex may show a faint brownish tint. However, this does not usually represent an interference because a blank on subsequent treatment for color development with potassium dithiooxalate shows only the normal

Table I: Transmittances and optical densities of typical calibration test solutions after treating in accordance with the analytical procedure

	Original Test Solutions							
	a.		b.		c.		d.	
Commercial sodium stearate	100	mg.	100	mg.	100	mg.	100	mg.
"Sequestrene" .....	.75	mg.	3.0	mg.	6.0	mg.	....
Distilled water	98	ml.	98	ml.	98	ml.	98	ml.
% Transmittance	88		66		41		100	
Optical density ....	.054		.18		.38		0.0	

Measurements were made on the colored test solutions which were filtered through asbestos after standing for 20 minutes.

Measurements at 508 mμ in one cm cells, using the blank (d) at 100 per cent transmittance (0 optical density) as reference.

slightly yellow tint when the prescribed quantities of soap, nickel, and dimethyl glyoxime are used.

A blank made up with soap, precipitated with calcium, etc. and treated for color development showed 98.5 percent transmittance compared with a similarly treated blank prepared without soap and calcium and set at 100 percent transmittance.

The colored pink to red test solutions ready for spectrophotometric measurement become turbid after standing for a short time. The red nickel dithiooxalate is completely soluble. The turbidity, which is yellowish in color, is due to some decomposition of the free dithiooxalate with liberation of sulphur. Addition of sodium acetate to raise the pH to 3.5-4.5 after development of the color at pH 1 has a retarding influence on turbidity development (11) and in gen-

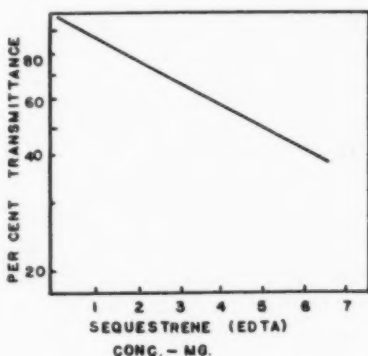
eral there is sufficient time in which to make measurements before turbidity occurs. For the most accurate results it is recommended that the colored test solutions and blank be allowed to stand for 20 to 30 minutes, then suction filtered through asbestos and the measurements made. In this case the same procedure is used with known test solutions in setting up a calibration curve. Asbestos must be used in this filtration since filter paper absorbs some of the color. Calibration curves prepared for use with high titer soaps will deviate slightly from calibration curves for use with low titer soaps. With suitable controls the method will detect 0.15 mg to 0.4 mg EDTA in 100 ml of original test solution.

In lieu of spectrophotometric equipment, the color may be compared in Nessler cylinders against standards suitably prepared from dyestuffs (11).

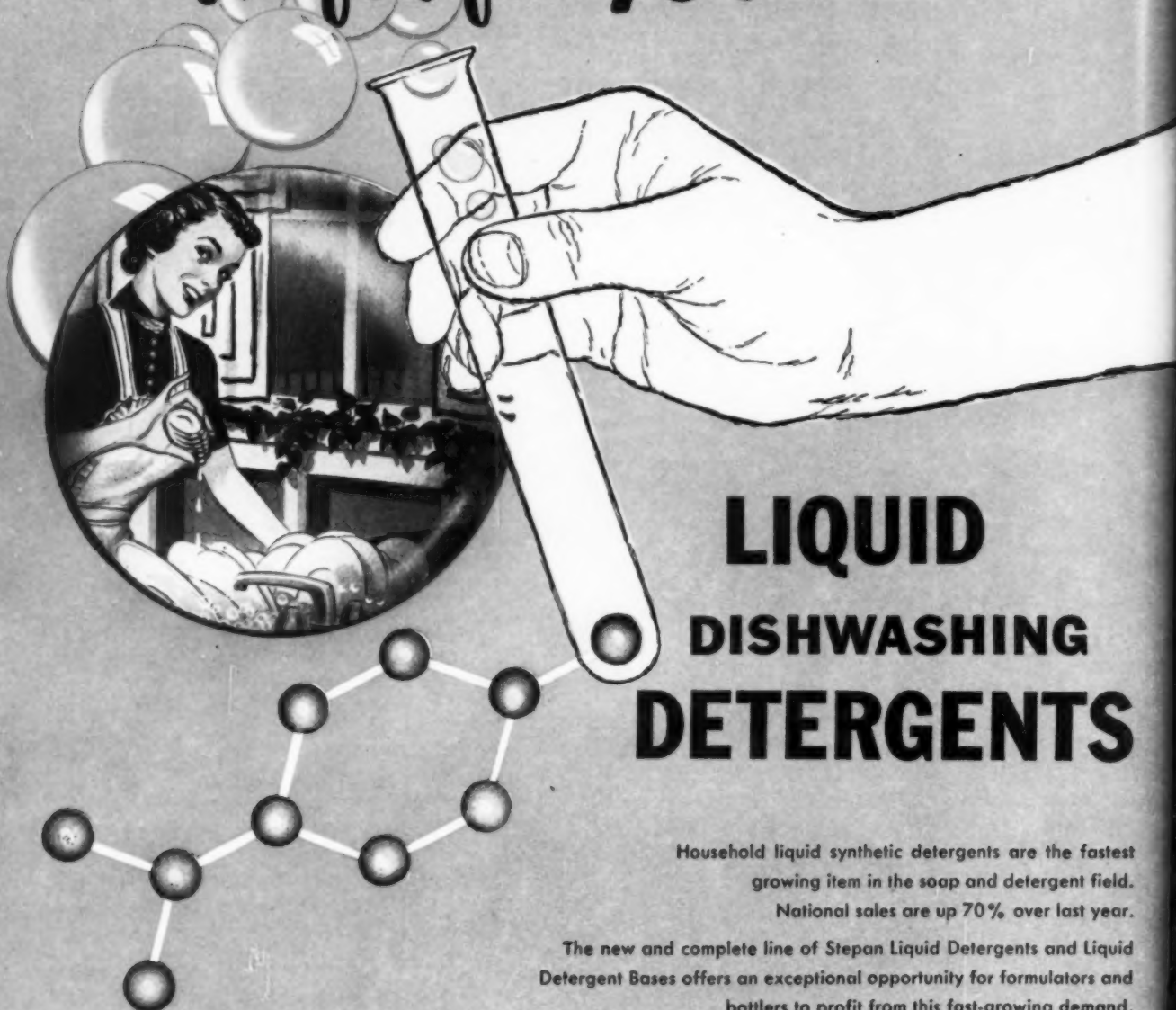
Internal Standard Procedure

IN many cases satisfactory results may be obtained by employing an internal standard. Thus: Determine the optical density of a solution of the sample at a definite initial volume (that has been treated in accordance with the analytical procedure) to which has been added a known amount of EDTA (as the sodium or potassium salt) as an internal standard. Also, determine the optical density of a similarly treated solution of the sample (without added EDTA) of the same initial volume. Calculate the weight of EDTA in the sample solution as follows:

Figure 1. Typical transmittance calibration curve for nickel dithiooxalate as measure of "Sequestrene AA" (EDTA) concentration in 98 ml. of original soap sample solution (containing 100 mg commercial sodium stearate). Measurements at 508 mμ in one cm cells. Data from Table I.



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Let a = optical density of the treated sample solution to which has been added a known amount of EDTA (added as the trisodium or tripotassium salt).

b = optical density of the treated sample solution without added EDTA.

$d = a - b$ = optical density due only to the added known amount of EDTA.

c = mg of added EDTA.

x = mg of EDTA in the sample solution.

Then:

$$x = \frac{c}{d} \cdot b$$

Example calculation:

a = optical density .29 for the treated sample solution containing 3 mg. added EDTA (added as trisodium or tripotassium salt).

b = optical density .10 for the treated sample solution without added EDTA.

$d = a - b = .19$

$c = 3$ mg EDTA.

x = mg of EDTA in the sample solution.

$$x = \frac{c}{d} \cdot b = \frac{3}{.19} \cdot .10 = 1.58 \text{ mg EDTA in the sample solution.}$$

The applicability of this method to any given case should be evaluated by making determinations on known samples.

Interfering and Non-interfering Substances:

COPPER interferes with the method (11). Small amounts of orthophosphates do not interfere since under the test conditions they are precipitated as calcium phosphate and removed along with the dimethyl glyoxime nickel complex. Thus, a six mg EDTA test solution containing 100 mg commercial sodium stearate, 10 mg sodium carbonate and 10 mg disodium phosphate in 98 ml distilled water and treated in accordance with the test procedure showed 42 percent transmittance corresponding to six mg "Sequestrene AA."

Table II. Comparative transmittance (at 508 mμ in one cm cells) of potassium coconut fatty acid soap solutions containing "Sequestrene AA" alone and together with sodium tripolyphosphate (treated in accordance with the analytical procedure)

	Original Test Solutions			
	a	b	c	d
"Sequestrene AA" (as the tripotassium salt)	0 mg.	0.75 mg.	3.1 mg.	3.1 mg.
Soap	180 mg.	180 mg.	180 mg.	100 mg.
Sodium tripolyphosphate	0 mg.	20 mg.	20 mg.	100 mg.
Distilled water	96 ml.	96 ml.	96 ml.	95 ml.
+ Calcium acetate soln.	4 ml.	4 ml.	4 ml.	4 ml.
% transmittance after treating according to the procedure	100	90 mg.	64.5	66.5
% transmittance of correspondence soap solutions with "Sequestrene" but without sodium tripolyphosphate	100	91	65	....

trene AA."

Small amounts of sodium tripolyphosphate do not interfere. A test solution containing 180 mg soap and 20 mg sodium tripolyphosphate, but without EDTA, showed no sequestered nickel when treated in accordance with the analytical procedure. Transmittances of test solutions containing soap, and sodium tripolyphosphate with EDTA are shown in Table II.

Calibration curves based on soap, tripolyphosphate test solutions containing known amounts of EDTA should preferably be used.

Coloring substances added to some types of commercial soap products will interfere with the method if they are present in sufficient amount to show appreciable absorbance at 508 mμ. However, many colors will be precipitated to some extent with the calcium and will be removed along with the precipitated soap. Also, the high dilutions of soap samples which are required in this method favor elimination or mitigation of interference from colors if present in very low concentrations.

Due to the variety of dyestuffs and concentrations that may be used in practice no generally applicable procedure for such cases can be given each case requiring separate study.

With commercial soap products of unknown composition, due consid-

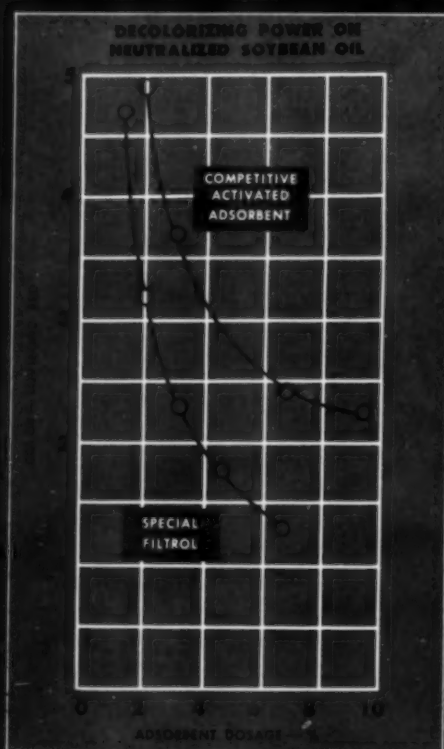
eration should be given to the possible presence of interfering substances or the presence of nickel complexing compounds other than EDTA.

Soap Detergent Mixtures

SURFACE active compounds such as polyethylene ethers of phenols or long chain fatty alcohols and related types in admixture with soaps interfere with the method. These compounds have a dispersing or emulsifying action on the nickel dimethylglyoxime complex causing it to be carried through the filter. This difficulty can be overcome by stirring 5.0 grams of "Nuchar C115" (activated carbon from Industrial Chemical Sales, New York), into the test solution after the addition of dimethyl glyoxime solution. The filtrates show a slight tan color but this does not constitute an interference. Blank experiments employing solutions of alkyl aryl polyethylene glycol without EDTA showed only the normal yellowish color for a blank after treating in accordance with the analytical procedure as given in Table III. Transmittances of test solutions containing known amounts of EDTA (shown in Table III) corresponded closely with the values shown for EDTA in the presence of a sodium stearic acid soap (Table I). Detergents of the polyethylene ether type are not precipitated by calcium, therefore, in this case the addition of calcium ace-

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Table III: Transmittance at 508 mu in one cm cells of typical calibration test solutions for "Sequestrene" concentration in the presence of a typical polyethylene ether type detergent.

	Original Test Solutions			
	a.	b.	c.	d.
Alkyl aryl polyethylene glycol	200 mg.	200 mg.	200 mg.	200 mg.
"Sequestrene" (as sodium or potassium salt) ..	0 mg.	0.75 mg.	3 mg.	6 mg.
Distilled water	100 ml.	100 ml.	100 ml.	100 ml.
To each test solution (at initial pH 6-6.5) added 15 ml nickel sulphate solution. After 10 minutes added five ml. ammonia, 15.5 ml dimethyl glyoxime solution and then 5.0 grams "Nucher C115." To 50 ml. of filtrate in each case added hydrochloric acid, potassium dithiooxalate and sodium acetate in accordance with the analytical procedure.				
	a.	b.	c.	d.
% transmittance of the colored test solutions	100	87	64	40

tate was omitted, and the total 100 ml of each original test solution was treated with the amounts of reagents indicated in Table III.

In mixtures with soap, the presence of appreciable amounts of a fatty amide sulfonate or alkyl aryl sulfonate type detergents do not seriously interfere. Test solutions containing 3.1 mg EDTA, 50 mg soap flakes and 50 mg of any one of these detergents were clear and colorless at the state where potassium dithiooxalate is to be added for color development. The transmittances after color development differed from a 3.1 EDTA test solution containing soap as the only detergent

present as shown in Table IV.

When EDTA is to be determined in mixtures of soap with other detergents, calibration curves must be prepared from test solutions containing known amounts of EDTA and soap in mixture with the type of detergent under consideration.

Calibration Procedure for EDTA in Potassium Coconut Fatty Acid Soaps

A POTASSIUM coconut fatty acid soap product containing 20 percent of the soap in water was prepared. Calibration test solutions were prepared containing one gram of the

Table IV: Transmittances of colored test solutions containing 3.1 mg "Sequestrene" and commercial sodium stearate flakes, and mixtures with some other detergents

Original Test Solutions	% transmittance of colored test solution
3.1 mg. "Sequestrene"	
100 mg. Commercial sodium stearate	66
98 ml. distilled water	
3.1 mg. "Sequestrene"	
50 mg. Commercial sodium stearate	62
50 mg. Alkyl aryl sodium sulfonate	
98 ml. distilled water	
3.1 mg. "Sequestrene"	
50 mg. Commercial sodium stearate	62
50 mg. Fatty amide sodium sulfonate	
98 ml. distilled water	
3.1 mg. "Sequestrene"	
50 mg. Commercial sodium stearate	63
50 mg. Fatty alkylolamide	
98 ml. distilled water	
"Sequestrene" was added as the sodium salt.	

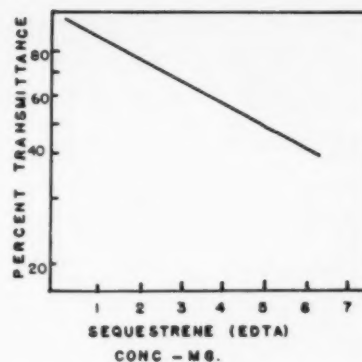


Figure 2

Figure 2. Typical transmittance calibration curve for nickel dithiooxalate as measure of "Sequestrene AA" (EDTA) concentration in 1.0 gram samples of potassium coconut fatty acid soap (20%) in 96 ml of original test solution. Measurements at 508 mu in one cm. cells.

soap product (200 mg of dry soap) in 96 ml distilled water. Six solutions were prepared. One, a blank without EDTA, the others containing respectively .75 mg, three mg, four mg, five and six mg EDTA (as the trisodium salt) (0.75, 0.3, 0.4, 0.5 and 0.6 percents EDTA, respectively on the weight of the 20 percent soap product). To each test solution, four ml calcium acetate solution was added. The test procedure was then conducted as previously described under analytical procedure for stearate soap. Spectrophotometric measurements were made at 508 mu in one cm cells on the colored test solutions after suction filtration through asbestos. The blank set at 100 percent transmittance was used as reference.

Figure 2 is a plot of transmittance vs. concentration of "Sequestrene AA" (EDTA).

Differential Calibration

ANOTHER type of plot which should be advantageous for plant control purposes is one that is used in methods of differential analysis (12) where concentrations of the determined component vary over a short range. In this type of plot, one concentration is used as the reference which is set at 0 optical density. Measurements on higher concentrations are then plotted with reference to this.

Example: A 20% potassium coconut fatty acid soap product to contain 0.39 percent EDTA (3.9 mg. (Turn to Page 153))



MECCANICHE MODERNE

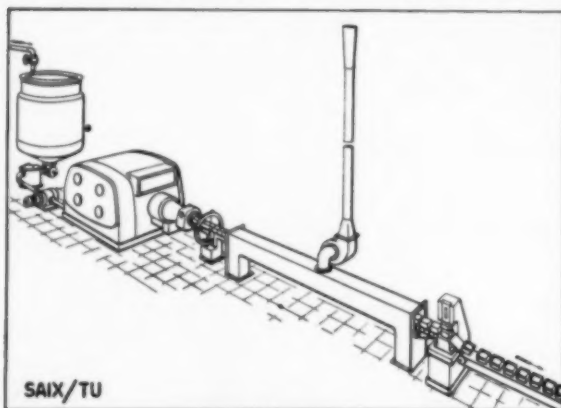
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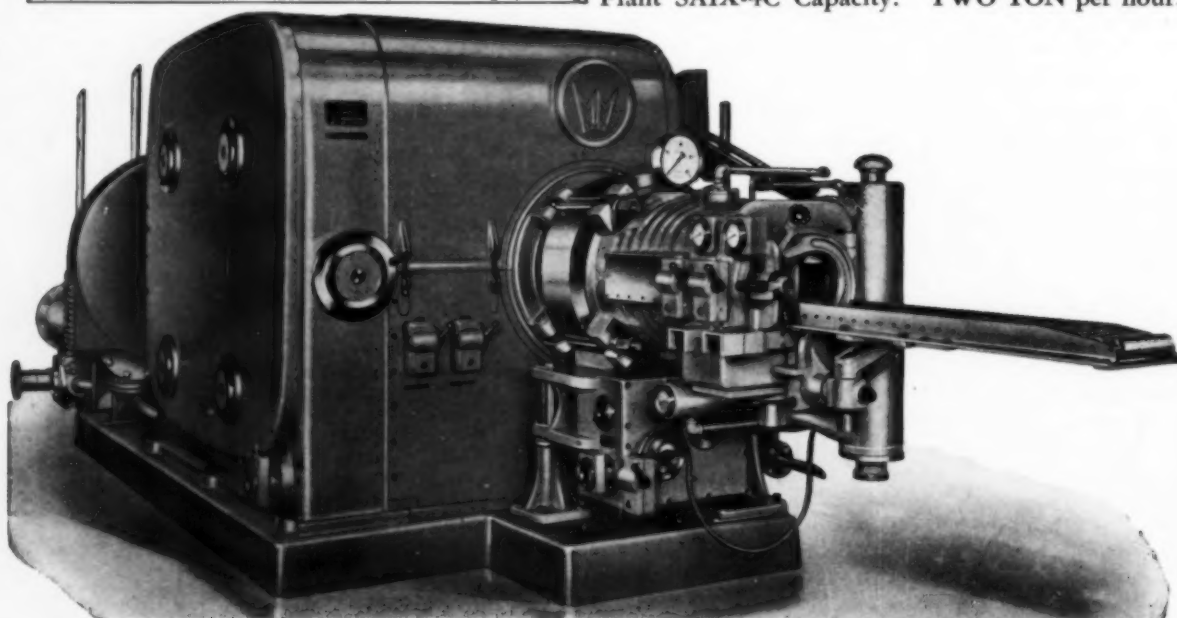


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SOAP and SANITARY CHEMICALS

PRODUCTION *Clinic*

By E. G. Thomssen, Ph.D.

ON A recent trip, I had an opportunity to sit in on an executive's conference of a company making chemical specialties. The purpose of the conference was to consider various company policies, particularly those covering purchasing policy and use of certain raw materials consumed in considerable volume in the manufacture of many of the items made by the firm. As other concerns are often faced with this same problem, some of the details of the discussion may be of interest.

The question which was raised had to do with selecting the right raw material at the best possible price. There is considerable fluctuation in the prices of some of the raw materials, such as perfuming compounds and surface active agents, bought by the firm. With these and other raw materials and packaging items, there is considerable latitude in such properties as quality, percentage of active ingredients, stability and, of course, cost. If it were possible to write specifications for such items, suppliers could be put on an equal basis. But it is not possible to establish specifications because product composition, price, etc., vary considerably, even though the end product in which they are used is considered satisfactory by the ultimate consumer.

The initial discussion of the conference was directed at the question of quality versus price. Some felt that the higher price materials, with larger percentages of active ingredients and greater purity, were the cheapest in the long run because the quality of the end product was determined by the quality of the raw materials entering its makeup. There was no general agreement on this point. One individual raised the point that the company's products were not in the category of toiletries or medicines and that 100 per cent purity was not essential to satisfactory performance. He went on to point out that a concern in this field which leaned over

backwards to make products of the highest quality and at correspondingly high prices would soon be out of business. It is impossible, he stated, to sell



DR. THOMSSEN

a high cost item successfully when competition in the field offers a product that gives satisfactory performance at a lower price. Agreement on this point was fairly general.

The second phase of the discussion dealt with reasons why certain raw materials with essentially the same composition sell at different prices. The comments on this point were enlightening. They gave an insight as to the attitudes of persons of various callings attending the meeting. Most of those present were in departments of the business other than production and formulation work. Their scientific knowledge was quite superficial, yet very sane comments were made. One man pointed out that certain concerns, because of more efficient manufacturing methods, could, through a superior process, make a raw material more economically. Another stated that efficiency in handling, lower overhead and smaller executive salaries and selling costs enabled the supplier to offer lower prices. Another opinion was advanced that, because of lower shipping costs such as freight and cartage and proximity to raw materials, lower prices were possible. The question of

adulteration also cropped up. Since the suppliers were all reputable, this suggestion did not carry much weight.

In due time, my opinion was asked. In past years this very troublesome point had often come up in manufacturing the numerous items under my supervision. It is the goal of all successful manufacturers to make a product which has general consumer acceptance at the lowest possible price and, which at the same time produces a satisfactory profit. In order to do this, a manufacturer must price his merchandise in line with his competition, unless he has a monopoly on the item.

Too much emphasis is placed by salesmen on high purity and quality when it comes to sanitary chemicals, in the writer's opinion. Salesmen must sell their wares and no one can blame them for emphasizing certain selling points. On the other hand, the function of soaps, detergents and other sanitary chemicals is the cleaning, polishing and sanitizing of things which are already soiled. The goal is to carry out efficient end performance safely, satisfactorily and with the least amount of effort. Such products must also possess good shelf life and appeal to the senses of touch, sight and smell. Most users are not so much interested in the ingredients of a product as how it performs. Too much stress is often put on the ingredient content of items. I fail to see where this has much sales value.

Granting what has just been stated as true, we can use this approach in the selection of raw materials of the types which were being discussed. In my opinion the most important consideration in selecting raw materials is how well they perform in the formulation of a product, irrespective of their price. In many cases, a cheaper raw material gives better results in the finished product than a more expensive one.

The odor of a product and the manner in which it performs will evoke different responses from different users, since the matter of individual taste and appeal are involved. No product satisfies all consumers. If an item satisfies 75 per cent, it is a super-

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SOAP and SANITARY CHEMICALS

ior product, if 60 per cent like it, that is very satisfactory.

My opinion was and is that the end use of the product should be the criterion for the selection of the raw materials entering into its formulation.

Dispersing Agent

NOPCO Chemical Co., Harrison, N. J., is now offering a dispersing agent that efficiently prevents the accumulation in a mass or agglomeration of small size solids, especially during processing operations. This troublesome condition, which is not uncommon, can be the cause of much grief. Small amounts of Nopco's "1187-X" can prevent the condition.

Ester-Free Oleic Acid

ARMOUR Chemical Division, Armour & Co., Chicago 9, recently announced the availability of six new oleic acids that are said to possess high purity and improved stability. They are produced by a low temperature crystallization process. A special solvent is used to produce ester-free acids. The resulting oleic acid is highly resistant to oxidation and rancidity. Soaps and shampoos made from the new oleic acids are said to have longer shelf life.

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"Ply-Veneer" Boxes

WEYERHAEUSER Timber Co., Tacoma, Wash., recently developed boxes made from laminated wood and Kraft paper. The result is a sturdy container. The cases are designated "Ply-Veneer" boxes. This material has stiffness and resists crushing. It resembles plywood in that a thin slice of fir is glued between two sheets of container paper board. The finished

containers may be easily printed, readily handled, are tough, light in weight and smooth in finish. The cost is less than wooden cases.

Protective Magnets

DINGS Magnetic Separator Co., Milwaukee 46, Wis., makes inexpensive magnetic plates which may be readily installed in chutes, ducts or over belts to remove "tramp" iron from grinders and processing machinery. The magnets also eliminate any hazards occasioned by iron sparks.

Strong Sealing Tape

MINNESOTA Mining & Manufacturing Co., St. Paul 6, Minn. are offering what they term the world's strongest tape. It is known as "Scotch Filament Tape No. 880." Among the uses suggested are for the reinforcement of shipping cartons, bundling heavy materials and for many other purposes. A tape dispenser for the material is available.

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Portable Vacuum Cleaner

Production of a new heavy duty portable vacuum cleaner for maintenance use in industrial plants,



commercial buildings, schools, hotels and similar applications has recently been announced by Premier Co., St. Paul, Minn. Designated Model P-909, the new cleaner is equipped with a universal type a-c/d-c, 115 volt motor, sealed against water damage and fitted with a separate cooling system for continuous operation. It generates an air flow of 74 cubic feet per minute and a vacuum water lift of 42 inches.

Dry tank capacity is 1 1/4 pecks; liquid capacity is 3 3/4 gallons. All bearings are precision ball-type, permanently sealed in lubricant. The unit's four casters have rubber tread and top swivel bearings. A protective rubber bumper surrounds the cleaner base to safeguard furniture and walls. Finish is two-tone gray; fittings are chrome-plated. Dimensions of the P-909 are: height, 21 1/2 inches; diameter 14 1/2 inches. Net weight is 32 pounds; shipping weight is 45 pounds. A number of standard cleaning tool attachments are furnished with the unit.

New Caustic Soda Manual

A new 64-page illustrated manual, titled "Caustic Soda," has recently been published by Columbia-Southern Chemical Corp., Pittsburgh. The volume gives a detailed history of caustic soda production and uses, methods of manufacture, forms and grades, shipping and handling, comparative economies of solid and liquid caustic. It also includes tables and charts, outlines of the properties of caustic soda, and data on methods of analysis and mixing caustic soda solutions. The manual may be had on request to the corporation at 420 Fort Duquesne Boulevard, Pittsburgh.

Lanham Act Report

A review of the requirements which owners of trademarks must observe if their marks are registered under the Lanham Act, has recently been released by Roy W. Peet, manager and secretary of the Association of American Soap & Glycerine Producers, Inc. Copies of the report are available on request to the Association at 295 Madison Ave., New York.



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Products and PROCESSES

Solid Shampoo Mixture

A solid shampoo is made by mixing five to fifteen parts of a combination of sodium alkyl aryl sulfonate (100) and sodium sulfate (60) with 10 to 30 parts of soap, higher alcohol sodium sulfonate 10 to 20 parts, $\text{Na}_2\text{CO}_3 \cdot \text{NaHCO}_3 \cdot 2\text{H}_2\text{O}$ five parts, and white acid clay sixty parts. Japanese patent 7041 ('51), Kao Soap Co. *Chem Abstracts*, Volume 47, page 5146.

Detergent Testing

New testing procedures in the selection of detergents are the subject of an article featured in a recent issue of *Rohm & Haas Reporter*, house organ of Rohm & Haas Co., Philadelphia. The detergency tests show non-ionic compounds to be superior for the cleaning of hard surfaces. Details of the technique, which is claimed to be simple, inexpensive and rapid, were described in an article in *Soap and Sanitary Chemicals*, February and March, 1953, by Manuel N. Fineman. The article was based on a paper entitled "Nonionics—the All-Surface Cleaners."

Wetting Agents for Sprays

Polyethylene glycolic ethers and sulfonated products of petroleum are shown to be superior to soaps as wetting agents for contact insecticidal and fungicidal sprays. Additions of 0.1 percent of these compounds are said to have increased effectiveness of various insecticides. A. A. Smirnova, *Doklady Vsesoyuz. Akad. Sel'skokhoz. Nauk im. V. I. Lenina* 17, No. 2, 19-22 (1952) through *Chem. Abstracts*, volume 47, page 5062.

Water-soluble Perfumes

Water-soluble perfume bases, trade-named "Osols" are suitable for incorporation in liquid hand soaps and germicide formulations according to "perfume case histories" reported in *D&O News*, house organ of Dodge & Olcott, Inc., New York. "Osol" fougere, geranium and heather are

compatible with alkaline solutions and should be used in a proportion of one half to one ounce per gallon of liquid soap. "Osol Germidol" is recommended as an odor mask for germicides at the rate of one-third to one-quarter ounce per gallon of germicide solution.

Foam Determination

A fully automatic apparatus for measuring foam production, based on mechanically operated reciprocating sieves is described by Ernst Goette in *Melliand Textilberichte*, 32, 210-12 (1951). Results obtained with solutions of pure sodium alkylsulfates are reported. The rate of formation and of disappearance and the volume of foam are determined. The volume is shown to increase linearly with the log of the concentration and the foam is found to be most stable at the critical concentration for micelle formation.

Soapstock Clarification

Soapstock from black cottonseed oil is readily clarified by treatment with 30 percent hydrogen peroxide. After treatment an org. layer is formed which is separated by conventional methods. I. Ya. Samarin (Gorki Oil-Fat Trust), *Masloboino Zhirovaya Prom.* 18, No. 30-1, 1953. Through *Chem. Abstracts*, vol. 47, Page 5702.

New Washing Agents

Water-soluble, surface-active products, suitable for use as washing agents or auxiliary agents in the textile and paper industries, result from the following procedure: halogenated aliphatic or cycloaliphatic hydrocarbons with six to 25 carbon atoms are caused to react with SO_2Cl_2 in the presence of organic nitrogen compounds, and the resulting sulfonyl chlorides are saponified. Alternatively, halogenated aliphatic hydrocarbon in admixture with cycloaliphatic hydrocarbons can be treated with SO_2Cl_2 and Cl to produce the Cl-containing sulfonyl chlorides. An aliphatic mixture (15 parts by weight) (av. mol.

wt. 194) from the Fischer-Tropsch synthesis is chlorinated at 60-80° until about one part Cl is absorbed. SO_2Cl_2 (35 parts) is dropped into the chlorination mixture, to which 0.2 parts pyridine has been added, under radiation with active light at about 40-60°. The formed HCl and excess SO_2Cl_2 are removed in vacuo, and the residue, a viscous oil, after saponification with aqueous NaOH gives a water soluble paste of good foaming properties. Suitable salts, such as Na_2SO_4 , Na_2CO_3 , and phosphates, can be mixed with the spray-dried paste to yield a washing powder. Dodecyl chloride can be treated similarly. German patent 765,128, 1952, Henkel & Cie.

Bisulfite Liquor Syndet

A detergent, wetting, emulsifying, and solubilizing agent results from the mixing of the residual bisulfite liquor, obtained from the manufacture of cellulose or extraction of this residue, with colloidal clay and mineral salts, particularly alkaline earths salts of borates, phosphates, silicates, aluminates, carbonates, and sulfates. French patent 893,260, Marius Guilbaud, Marcel Chene.

New German Insecticide

Protection from sucking and eating insects for textiles, plants, etc. is provided by an ester of a disubstituted phosphoric acid with negative-substituted phenols. The ethyl ester of para-nitrophenyl thiophosphoric acid may be used with suitable diluents and wetting agents in either dusts or sprays. This product may be applied to kill insects in soil or wood, and to kill moths and larvae in closed spaces by action of vapor. Concentrations vary from 0.005 percent to 0.5 percent. German patent 811,514, 1951, Farbenfabriken Bayer.

Glycol in Soap Milling

Approximately four percent polyethylene glycol (mol. wt. 4000) is used in the milling of toilet soap, according to Japanese patent 7228 ('51), Yasota Kawakami, *Chem Abstracts*, volume 47, page 5146.

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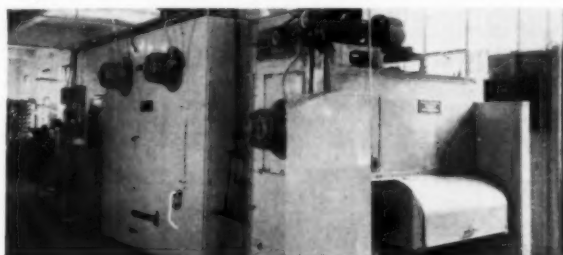
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SOAP and SANITARY CHEMICALS

NEW Patents

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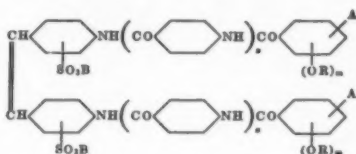
The data listed below is only a brief review of recently issued pertinent patents obtained by various U. S. Patent Office registered attorneys for manufacturers and/or inventors. Complete copies may be obtained direct from Lancaster, Allwine & Rommel by sending 50c for each copy desired. \$1.00 for Canada. They will be pleased to give you free preliminary patent advice.

No. 2,640,840. Manufacture of Odorless Soap from Low Grade Oils and Fats, patented by Klaus Appuhn, Vina Del Mar, Chile, assignor to Compania Industrial, Valparaiso, Chile, a corporation of Chile. A process for the manufacture of odorless soap of good quality is described which is solid at room temperature, from malodorous unsaturated fatty acids obtained from low grade animal and vegetable fats and oils, said process comprising reacting malodorous unsaturated fatty acids with molten alkali in the absence of water at substantially atmospheric pressure and in the presence of a reaction moderator capable of reducing the violence of the reaction and the formation of foam, said reaction moderator constituting one of the reactants and being selected from the group consisting of sperm oil and wool grease said reaction moderator constituting at least 40 per cent of the mixture of fatty acids and moderator, the quantity of alkali used being sufficient to convert completely the unsaturated fatty acids and the moderator into an odorless soap having a soap base with a higher degree of carbon atom saturation and a lower molecular weight than the organic reactants.

No. 2,643, 229. Nonsoap Synthetic Detergent in Cake Form, patented by William Monroe Walters, Eleanor, W. Va. A detergent composition in solid cake form is disclosed comprising a mixture of 35-65 parts sodium sulfate and 65-35 parts of an alkali-metal salt of an alkylated benzene sulfonic acid, and at least one but not more than ten parts per 100 parts of the aforesaid solid constituent mixture of a compound selected from the group consisting of glycols and glycol-ethers whereas said members contain at least three carbon atoms and not more than

two hydroxyl groups having a molecular weight not exceeding about 150.

No. 2,643,197. Fluorescent Alkoxy Benzoyl Derivatives of 4,4' Diamino Stilbene-2,2' Disulfonic Acid and Detergent Compositions Containing Same, patented by Leslie Noel Savidge, Burton, and Richard Thomas, Bromborough, England, assignors to Lever Brothers Company, Cambridge, Mass., a corporation of Maine. A compound is disclosed having the formula



where each B is a member of the group consisting of hydrogen, sodium, potassium and ammonium, where each x is selected from the group consisting of 0 and 1, where each A is a member of the group consisting of hydrogen, methyl and acetylamino, where each R is an alkyl radical of 1 to 4 carbon atoms, and where each m is an integer selected from the group consisting of 1, 2 and 3. A composition is described essentially of a detergent comprising an organic detergent and not more than about 0.075 per cent by weight of a compound of claim 1.

No. 2,641,563. Insecticidal and Acaricidal Composition Comprising Propylene Glycol and Alkali Ammonium Sulfo Sulfide, Joseph B. Moore, Edina, Minn., assignor to McLaughlin Gormley King Company, Minneapolis, Minn., a corporation of Minnesota. A water miscible spray composition is described for agricultural spraying purposes comprising propylene glycol and alkali ammonium sulfo sulfide.

No. 2,641,603. Refining of Glyceride Oils, Benjamin Clayton, Pasadena, Calif. The process of alkali refining a glyceride oil is described which comprises mixing a concentrated aqueous solution of caustic soda having a concentration between approximately 25° and 50° Bé. and being added in an amount sufficient to neutralize the acidity of said oil without providing any substantial excess of said caustic soda, maintaining the temperature of said oil and solution of caustic soda at a temperature not higher than approximately 110° F., thereafter admixing an aqueous solution of soda ash with said oil and continuously centrifugally separating the resulting aqueous soapstock from said oil at a temperature

between approximately 100° and 160° F., said solution of soda ash having a concentration between approximately 10° and 20° Bé. and being added in an amount sufficient to cause said soapstock to separate cleanly from said oil, and thereafter mixing said oil with a solution of caustic soda having a concentration between approximately 20° and 50° Bé. and in an amount between approximately 0.5 per cent and 4 per cent of the weight of said oil, and continuously centrifugally separating an additional amount of soapstock from said oil at a temperature between approximately 120° and 180° F.

No. 2,640,823. Treatment of Tall Oil, patented by Stewart W. Gloyer and Henry A. Vogel, Milwaukee, Wis., assignors to Pittsburgh Plate Glass Company, a corporation of Pennsylvania. A process of recovering unsaponifiable matter of tall oil from tall oil is described, which process comprises selectively esterifying the free fatty acids in tall oil with a lower alcohol, extracting the resultant mixture of esterified fatty acids, rosin acids and unsaponifiable matter with a selective polar solvent to obtain an extract of rosin acids and a raffinate containing most of the esters of fatty acids and most of the unsaponifiable matter of the tall oil and a minor amount of rosin acids, then distilling the raffinate to obtain the esters of fatty acids in purified form and to obtain a pitch-like still residue of residual esters of fatty acids, rosin acids and a high concentration of unsaponifiable matter, saponifying said acids and esters with an aqueous alcohol solution of an alkaline compound of an alkali metal to obtain solutions of soaps of tall oil and unsaponifiable matter in water and alcohol, extracting out the unsaponifiable matter from said solution with a solvent therefor which is immiscible in water and alcohol, eliminating the solvent from the unsaponifiable matter and crystallizing out the sterols in the unsaponifiable matter in a monohydric alcohol containing 1 to 3 carbon atoms in a straight chain hydrocarbon nucleus.

New Jet Cleaner

A new unit to serve the requirements for a heavy duty all-electric jet cleaner that is safe from fire hazards has recently been introduced by Livingstone Engineering Co., Worcester, Mass. The device features a built-in hydraulic unit that produces a solid jet of heated water and detergent propelled under high discharge pressure and temperature. The manually controlled force removes grease deposits and soil encrustations.



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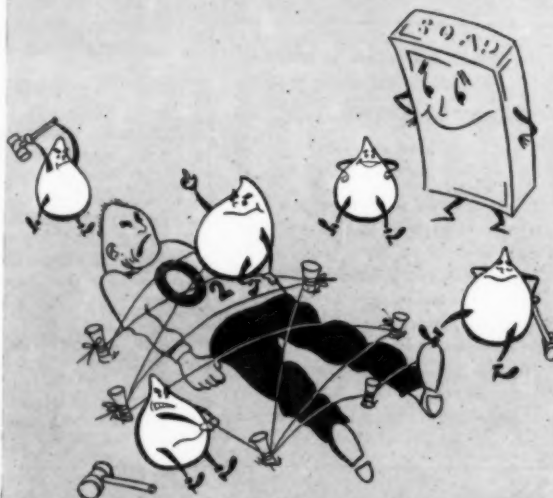
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SOAP PLANT *Observer*

By John W. McCutcheon

FROM AN analysis of recently released data on surface active agents, as given in last month's column, it was shown that dodecylbenzene sodium sulfonate continues to be the leading base material for detergents. That its production has dropped off slightly in 1952 is probably due to a greater swing toward lower active heavy duty products since the bulk sales of synthetics have continued to climb until they now exceed those of soap.

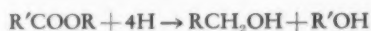
At the same time, the second largest retail base detergent material is the alcohol sulphates, particularly coconut and tallow fatty acid derived alcohol sulphates. This last class of products has not shown the huge increase that might have been expected



on the basis of low priced tallow over the past year or so. Perhaps this is a case where plant production methods

have not caught up with research.

The difficulty seems to lie in the production of the alcohols from fats or fatty acids. The most convenient method is by sodium reduction of the glyceride.



This is covered by the recently expired U. S. Patent 2,019,022 (1935) to Du Pont and described more recently and at some length by the inventor in *Ind. & Eng. Chem.* 39 55-62 (1947). It takes about 57 pounds of lauryl alcohol or 145 pounds of tallow fatty alcohols. The by-product alkali glycerol solution is best put through soap kettles to absorb the free alkali. When kettle soap production diminishes as a result of competition from the synthetics and/or continuous fat splitting methods, getting rid of the alkali can become a splitting headache. Perhaps this is the brake which has confined the production of this desirable type detergent base.

Another method of producing

Table 1. Production of surface active agents
(in millions of lbs.)

	1944	1945	1946	1947	1948	1949	1950	1951	1952
Cyclic type products									
Esters and ethers, non-sulfonated	—	—	—	12	17	15	31	26	27
Products containing nitrogen non-sulfonated**	2	3	1	1	2	2	3	3	4
Sulfonated products									
Dodecylbenzene	—	—	46	55	77	147	262	315	307
Other benzenoid compounds					25	—	—	—	—
Naphthalene derivatives	11	8	7	2	2	3	4	3	6
Petroleum derivatives	30	23	37	34	42	40	63	83	84
Miscellaneous derivatives	31	42	4	8	11	18	22	29	49
Total cyclic type products	74	76	95	112	176	225	385	459	477
Acyclic type products									
Esters and ethers, non-sulfonated	—	—	12	6	9	15	20	21	37
Products containing nitrogen and non-sulfonated	1	2	3	8	18	16	28	26	37
Products containing phosphorus and non-sulfonated	—	—	—	—	—	—	.4	.6	.6
Salts of fatty acids	—	—	1	—	1	1	3	4	5
Sulfated or sulfonated products of the following									
Acids	3	2	6	3	5	4	4	4	3
Alcohols	—	—	—	—	—	—	—	—	113
Esters	8	11	17	1	1	93***	1	1	13
Nitrogen containing	9	9	11	11	15	9	13	6	4
Oils and Fats	29	43	39	39	35	40	54	44	51
All other*	28	30	58	97	93	—	169	128	—
Petroleum products	—	11	—	14	22	28	—	—	—
Total acyclic type products	78	108	147	179	199	206	293	234	264

* Including sulfated alcohols.

† From Tariff Commission Reports

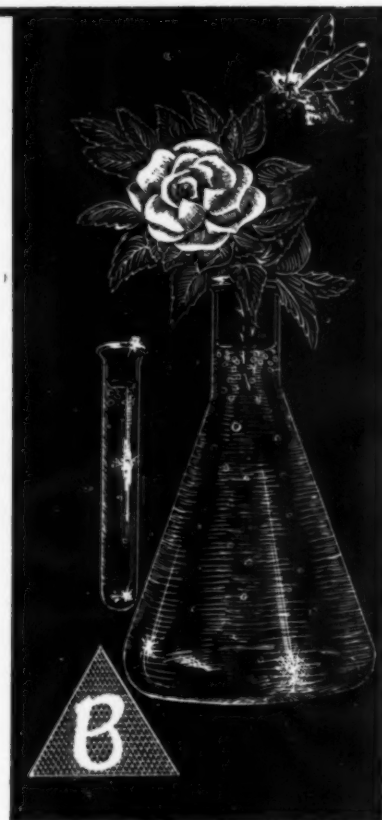
** Including quaternary ammonium compounds.

*** Including sulfated alcohols.

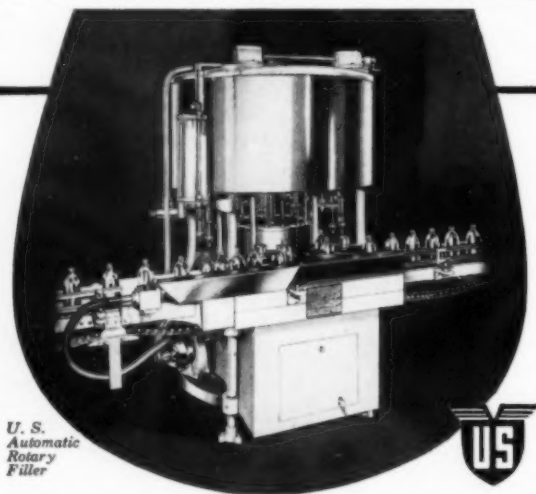
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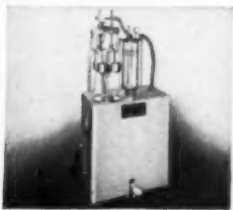
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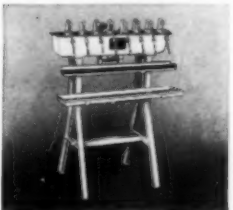
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alcohols is by hydrogenation. Unfortunately as far as utilizing cheap tallow is concerned, hydrogenation largely saturates the double bond and, therefore, yields a product from such fatty acids that is unacceptable as a detergent base. Sain & Adkin [*J. Am. Chem. Soc.* 59, 1-3 (1937)] do claim a fairly high unsaturated alcohol, one running from 63-65 per cent, when using a zinc-chromium catalyst. U. S. Pat. 2,374,379 claims less than a two per cent conversion to saturated acids using a zinc or cadmium plus vanadium catalyst. Information to date indicates, however, that numerous difficulties still exist in attempts to convert unsaturated tallow fatty acids to alcohol.

High pressure reduction of the heavy metal salts such as lead oleate seems to be worth attention. See U. S. Pats. 2,340,343-4 and Brit. Pats. 584,939; 585,219; 582,699 and 586,799. The chief difficulty in this process seems to be a physical one, namely the separation of molten lead from the alcohol. Not long ago the writer was asked why he considered this method important. He hasn't got a ready answer for that question yet, but sometime he will think of one!

An examination of Table 1 (see page 97) indicates the steady growth of non-sulfonated cyclic esters and ethers. Included are such products as the alkyl phenoxy ethylene oxide compounds. The doubling of production of these compounds since 1947 is largely due to growing use in industrial applications, particularly for such products as liquid scrub soaps and dry cleaning charge soaps, which are becoming very popular. No large retail market for this class of product has ever materialized. The first household liquid detergent using this class of product has recently been changed to one which produces more foam. In fact, the organic salts of the alkyl aryl sulfonates seem to have this market fairly well under control. It is the writer's opinion that production of this class of product will probably remain close to 30 million pounds in 1953.

Sulfonated cyclic petroleum derivatives have shown a healthy steady rise from 30 million pounds in 1944

to 84 million in 1952. Perhaps acyclic type products of this same class should also be included in our analysis since it is hard to classify these chemically. Apparently the Tariff Commission had the same trouble, as no production is shown under this class since 1949. The only effect of combining the two is to straighten the production curve more or less. These products are emulsifiers and are largely used as additives to lubricants and as agricultural emulsifiers. Both fields are growing in importance. However, these materials are largely the by-products of petroleum refining and it is possible that there is a limit on their availability. Even so, it is expected that such products will continue to grow and should top the 100 million mark in the near future.

Referring now to the acyclic group, we note two strong groups in the non-sulfonated esters and ethers and in the nitrogen containing compounds. The first group contains products such as the ethylene oxide condensed products of tall oil, etc., which are useful as detergents and emulsifiers. Of particular interest are the edible emulsifiers. Some restrictions have been placed on the use of certain types of these products. However, the feeling here is that this classification will show a decided trend upwards in the near future. An estimated 125 million pounds of this class, which includes the fatty monoglycerides, could be added here as formed in situ during manufacture and are not reported to the Tariff Commission as an available product. The second class of products include the amides which have found useful applications as foam stabilizers for household detergent products. Their production could easily double within a few years.

The other classes of products, except for the alcohol sulfates already discussed show little change and need no further comments except possibly to point out again that the group "All others" is probably largely a record of alcohol sulfate production.

IT IS alarming to consider how much waste time is involved by technical personnel in trying to keep up with new ideas and developments. The writer recalls many years ago the

statement of his organic professor that 50 per cent of all published scientific data was in error. Experience since then has only confirmed this sad statement. Then, again, when the facts are presented well, the conclusion is often biased to suit some preconceived notion. Just recently, another case appeared. A professor of chemistry in a southern university stated to the press that fluoro organic detergents were 50 per cent better than anything else on the market. When one writes to find out about this, back comes a mimeographed sheet which chiefly explains why he cannot answer each individual letter and refers to a book not yet published! Why can't a standard gag be applied to these fellows who are forever going off half cocked! Think of the money and expense he must have caused hundreds of people. They should put him in a straight jacket *with pockets!*

Bulletin on Cleaning Units

A new, comprehensive, eight-page bulletin on hydraulic jet cleaners, operated by steam and cold water lines, has recently been released by Sellers Injector Corp., Philadelphia. It also indicates the many applications of Sellers units in both industrial and food processing fields. Copies of the bulletin are available upon request to the company at 1600 Hamilton St., Philadelphia.

Latest Alsop Catalog

A new, 32-page, illustrated catalog presenting comprehensive information on the entire Alsop line of stainless steel liquid processing equipment, including filters, filter discs, mixing and storage tanks, portable mixers, fixed-side and top-entering agitators and transfer pumps, has recently been released by Alsop Engineering Corp., Milldale, Conn. The catalog treats each product separately. Their features are described with an explanatory text, and numerous plant installation illustrations, design variations, detail drawings and parts lists, application and performance data are shown. Copies of the catalog are available on request to the company at 800 Messmer St., Milldale, Conn.

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Evaluation

(From Page 50)

were very poor, but the polyether alcohols were somewhat better.

3. None of the fatty acids, either saturated or unsaturated, were acceptable.

4. All sulfonates tested, with the exception of the barium sulfonate, were acceptable. Therefore, it may be predicted that sulfonated materials, such as No. 21 mentioned above, and the sulfonates themselves will be effective water displacing agents. However, the use of the heavier alkaline earth sulfonates would not prove advisable.

5. In the case of the two succinates tested, it was found that the dioctyl compound was better than the diamyl compound, indicating again the influence of molecular weight on water displacement.

Summary

THE results of the water displacement tests presented in Table 2 represent the averages of at least two separate tests. It was found that the mean deviation between tests varied directly as the water displacing ability. This wider variation between separate tests of poor water displacing surfactants may be attributed to physical displacement. Based on the small mean deviation mentioned above, the reliability of the radiometric technique employed is substantiated.

In regard to the effect of molecular weight on water displacement, the results were inconclusive. This was caused primarily by the small number of surfactants available for testing in any one homologous series. In some instances there appeared to be a trend towards increased water displacing ability with increasing molecular weight, while in other cases the reverse was true. Therefore, any conclusion as to the effect of molecular weight will have to be postponed until such time as a more complete series can be tested.

The results of the ionic behavior investigation, while not conclusive due to the small number of anionic agents tested, indicated that the effi-

**TABLE 3. Functional Group Comparison
Per Cent Water Retention**

Agent No.	Composition	Concentrations of Agents	
		1%	0.5%
Amines and Acetates of Amines			
GROUP A			
170	Octylamine (Technical)	74.6	
169	Octylamine	83.8	
172	Decylamine (Technical)	89.2	
171	Decylamine	88.3	
174	Dodecylamine (Technical)	86.1	
173	Dodecylamine	Ins.	Ins.
168	Tetradecylamine	93.3	
167	Hexadecylamine	77.2	
166	Octadecylamine (Tech.)	Ins.	105.7
165	Octadecylamine	Ins.	96.6
176	Tallow Amine (Tech.)	Ins.	90.4
175	Tallow Amine		108.1
178	Soy Amine (Tech.)	70.5	
177	Soy Amine	78.8	
180	C16 and C18 Amines (Tech.)	Ins.	Ins.
179	C16 and C18 Amines	Ins.	Ins.
181	Coco Amine (Tech.)	100.3	
182	Coco Amine	83.8	
GROUP B			
24	Fatty Amine	70.8	
66	Fatty Amine	66.5	
141	Amino-Propyl Tallow Amine (See #142 Under Oleates)	60.0	
143	Amino-Propyl Tallow Amine	69.9	
144	Amino-Propyl Soy Amine	51.8	
145	Amino-Propyl Coco Amine	49.9	
146	Amine (12 carbons)	47.4	
GROUP C			
147	Octylamine Acetate (Tech.)	12.0	
148	Octylamine Acetate	14.3	
149	Decylamine Acetate (Tech.)	20.5	
150	Decylamine Acetate	29.8	
151	Dodecylamine Acetate (Tech.)	Ins.	69.0
152	Dodecylamine Acetate	Ins.	70.0
153	Tetradecylamine Acetate	Ins.	48.0
154	Hexadecylamine Acetate	Ins.	Ins.
155	Octadecylamine Acetate (Tech.)	Ins.	Ins.
156	Octadecylamine Acetate	Ins.	Ins.
157	Coco Amine Acetate (Tech.)	28.2	
158	Coco Amine Acetate	39.4	
159	C16 and C18 Amine Acetate (Tech.)	Ins.	Ins.
160	C16 and C18 Amine Acetate	Ins.	21.7
161	Soy Amine Acetate (Tech.)	13.6	
162	Soy Amine Acetate	10.4	
163	Tallow Amine Acetate (Tech.)	Ins.	20.7
164	Tallow Amine Acetate	Ins.	20.2
Fatty Esters			
14	Polyoxyalkylene Ester	58.0	
18	Polyglycol Ester	59.4	
21	Sulfonated Fatty Ester	12.4	
200	Diester of Polyhydric Alcohol	56.6	
95	Long Chain Fatty Ester of multiple etheramine linkages	94.7	
Laurates and Oleates			
19	Polyoxyethylene Glycol 400 di, triricinoleate	53.6	
121	Polyoxyethylene Sorbitol 4,5-dioleate	62.5	
129	Polyoxyethylene Sorbitol Tetraoleate	63.3	
130	Polyoxyethylene Sorbitol Dioleate	62.3	
131	Polyoxyethylene Sorbitol Pentaoleate	77.9	
183	Polyoxyethylene Glycol 400 Dioleate	62.6	
204	Polyethylene Glycol 200 Dioleate	101.9	
205	Polyethylene Glycol 200 Dilaurate	84.8	
207	Polyethylene Glycol 300 Dioleate	56.9	
206	Polyethylene Glycol 300 Dilaurate	58.9	
203	Polyethylene Glycol 400 Dilaurate	57.9	
202	Polyethylene Glycol 400 Dioleate	63.0	
208	Polyethylene Glycol 600 Dioleate	58.9	
31	Diethylene Glycol Oleate	71.1	
15	Sorbitan Trioleate	69.5	
25	Sorbitan Mono-oleate	60.6	
142	Amino-propyl tallow dioleate	13.1	
Alcohols			
99	Unsaturated Alcohols	96.2	
101	Unsaturated Alcohols	91.6	
186	Polyether Alcohols	61.2	
189	Alkyl Aryl Polyether Alcohols	30.7	
2	Fatty alcohol sulfate	104.8	

(Table continued on Page 102)

ciency of surfactants as water displacing agents would fall in the following descending order:

- (1) Anionic
- (2) Cationic
- (3) Nonionic

The study of the effect of the functional groups revealed only one pertinent fact, i.e., that sulfonates or sulfonated materials can be expected to be superior water displacing agents.

Although several of the surfactants exhibited good water displacing ability, studies of their corrosiveness, compatibility, and exhaustion characteristics, as well as cost, would be necessary before recommending their inclusion in rust preventive formulations.

The authors wish to express their appreciation to their co-workers at the Rock Island Arsenal Laboratory for their assistance, and to the Ordnance Corps, Research and Development Division of the Department of the Army and the supervisory staff of the Laboratory for permission to publish the information in this paper.

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Pressure Shave Sales Up

Pressure packaged shaving creams are beginning to cut into sales of lather creams, it was revealed recently in a survey of consumer preferences in Columbus, O. While brushless shave brands maintained their approximate 27 per cent share among the three types of creams, lather brands dropped over seven per cent in consumer favor, from 38.5 per cent in 1952 to 31 per cent in 1953, according to the survey. The difference seemed to go largely to pressurized shaving creams, which got 11.7 per cent of the total this year.

The survey, made among 3,000

**Table 3. (Continued) Functional Group Comparison
Per Cent Water Retention**

Agent No.	Composition	Concentration of Agents	
	Fatty Acids	1%	0.5%
90	Unsaturated Fatty Acid (18 carbons).....	64.9	
199	Saturated Fatty Acids (16-18 carbons).....	56.1	
140	Lauric Acid	77.5	
91	Glycero-phosphoric acid-choline fatty acids	74.9	
193	Glycero-phosphoric acid-choline fatty acids	97.6	
	Sulfonates		
33	Monoethyl phenyl phenol potassium monosulfonate.....	13.0	
35	Monoethyl phenyl phenol guanidine monosulfonate.....	11.2	
21	Sulfonated fatty acid	12.4	
197	Barium sulfonate	96.9	
	Miscellaneous Functional Groups		
4	Diocetyl Sodium Succinate	11.0	
5	Diamyl Sodium Succinate	29.2	
13	Fatty Amide	61.4	
201	1-hydroxyethyl-2 hepta decanyl glyoxalidine (90%) with linear amide of oleic acid (10%)	7.0	
15	Sorbitan Trioleate	69.5	
25	Sorbitan Monoleate (one double bond)	60.6	
34	Sorbitan Monolaurate (saturated)	58.9	
184	Organic phosphates	34.1	
185	Organic phosphates	13.2	
139	Chloride mixture of di-fatty alkyl salts	39.5	
192	Monoleic derivative	99.7	
190	Phthalic glycerol alkyd resin in ethylene dichloride	63.5	
20	Alkyl imidazole type (355 M.W.) tertiary amine.....	10.2	

families in the Columbus city zone by the *Columbus Dispatch* and the *Ohio State Journal*, also showed that non-chlorophyll tooth pastes and powders still maintain their lead over chlorophyll items. A total of 58.4 percent of Columbus consumers interviewed buy non-chlorophyll tooth pastes, and 65.1 percent tooth powders. The comparative figures for all brands of chlorophyll items were 39.1 percent and 34.1 percent respectively.

A large rise in the number of men using personal deodorants was noted by the consumer analysis. In 1952, 49.3 percent of men questioned used the deodorants, while in 1953 the percentage jumped to 56.4 percent.

A sharp drop was reported in the use of cream shampoos, down almost nine percentage points from the 38.2 percent of a year ago. On the other hand, liquid shampoos climbed, reaching 70.7 percent of this year compared with 64 percent in 1952.

GAF Elects New Directors

Nine new directors were elected to the board of General Aniline & Film Corp., New York, it was announced recently following the annual meeting of stockholders. In addition to electing the nine new directors, the

board announced that the law firm of Winthrop, Stimson, Putnam & Roberts, New York, has been selected as legal counsel for the company, replacing the Washington law firm of Steptoe & Johnston. Among the nine new directors elected are General Aniline's own vice-president in charge of Ansco and Ozalid divisions, James Forrestal; executive vice-president, General Dye-stuff Corp., John C. Franklin, and vice-president and treasurer of GAF, Francis A. Gibbons. Other new members are: Norman H. Biltz, Reno, Nev.; Elmer H. Bobst, president, Warner-Hudnut, Inc.; Melvin C. Eaton, president, Norwich Pharmacal Co.; John P. Maguire, president, John P. Maguire & Co.; Winson Paul, president, Domestic Exploration Corp.; G. Schuyler Tarbell, Jr., attorney.

Logcher in S. A. Markets

Dr. Henri F. Logcher, export manager of Magnus, Mabey & Reynard, Inc., New York, left recently on a three months' trip through Mexico, Central America and the West Coast of South America. He will contact M M & R foreign sales representatives and discuss new developments in essential oils and perfuming materials.

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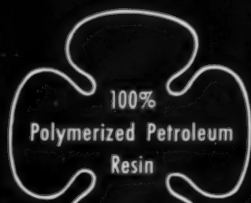
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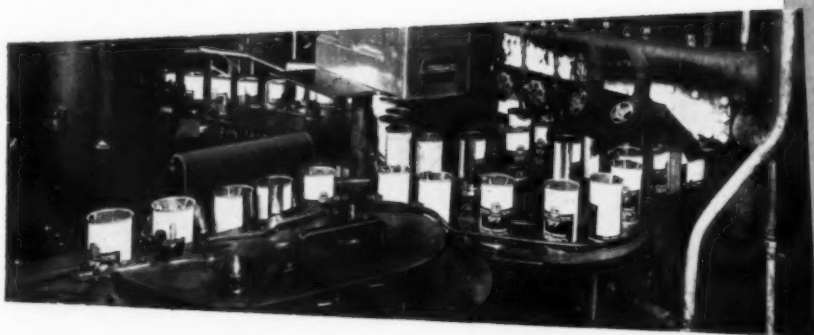
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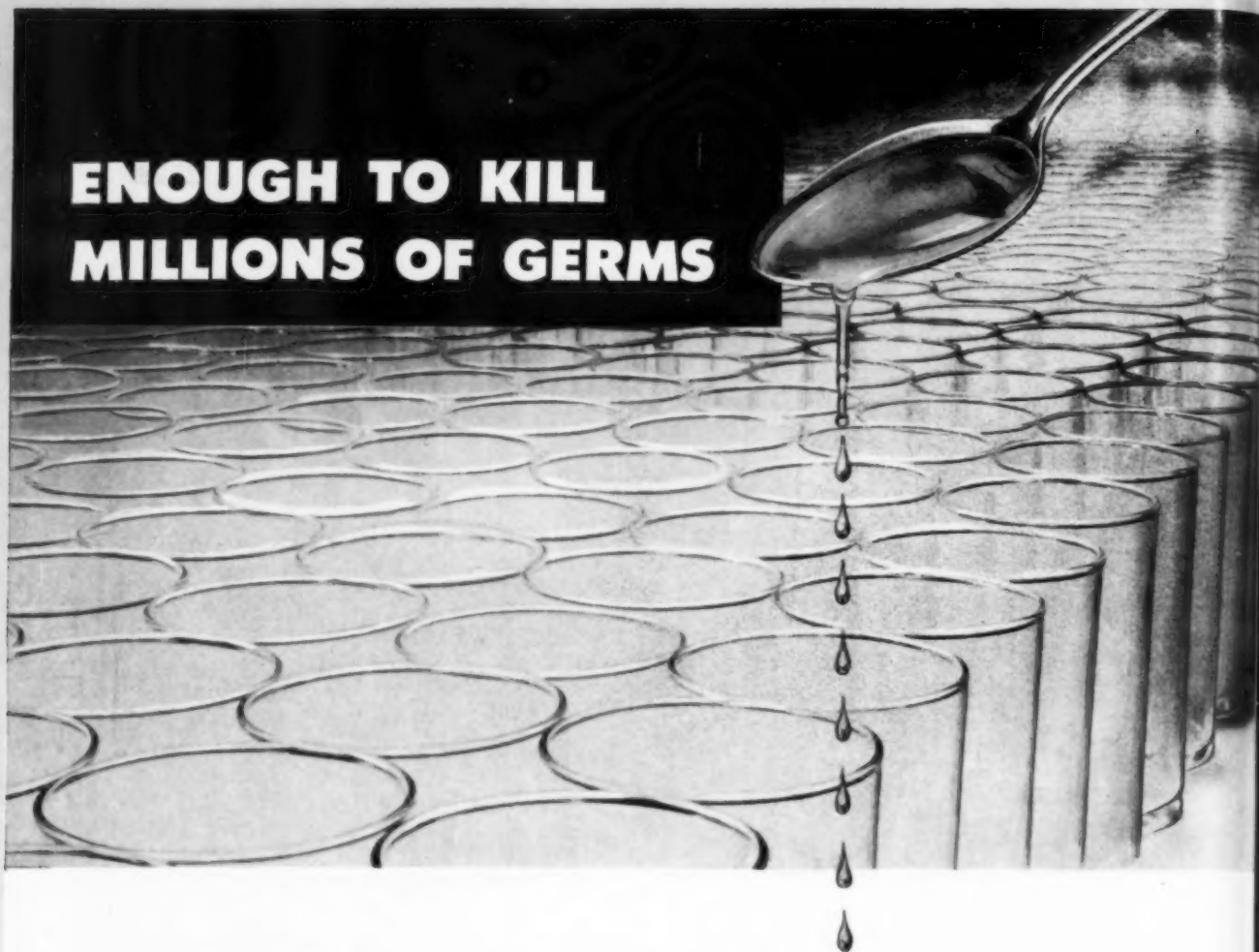
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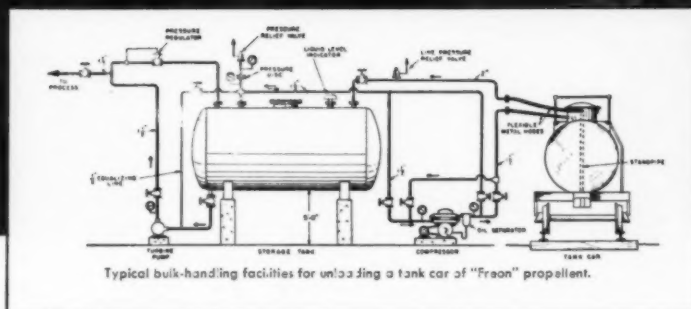
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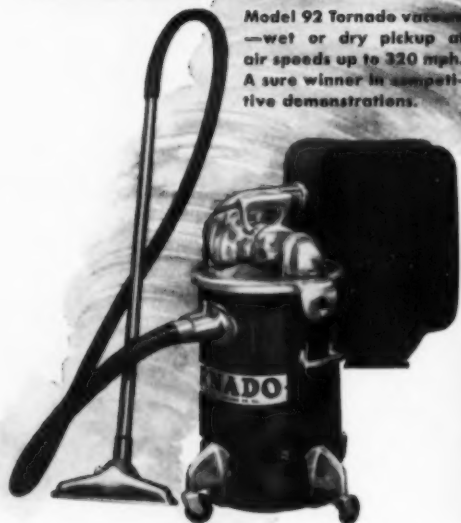
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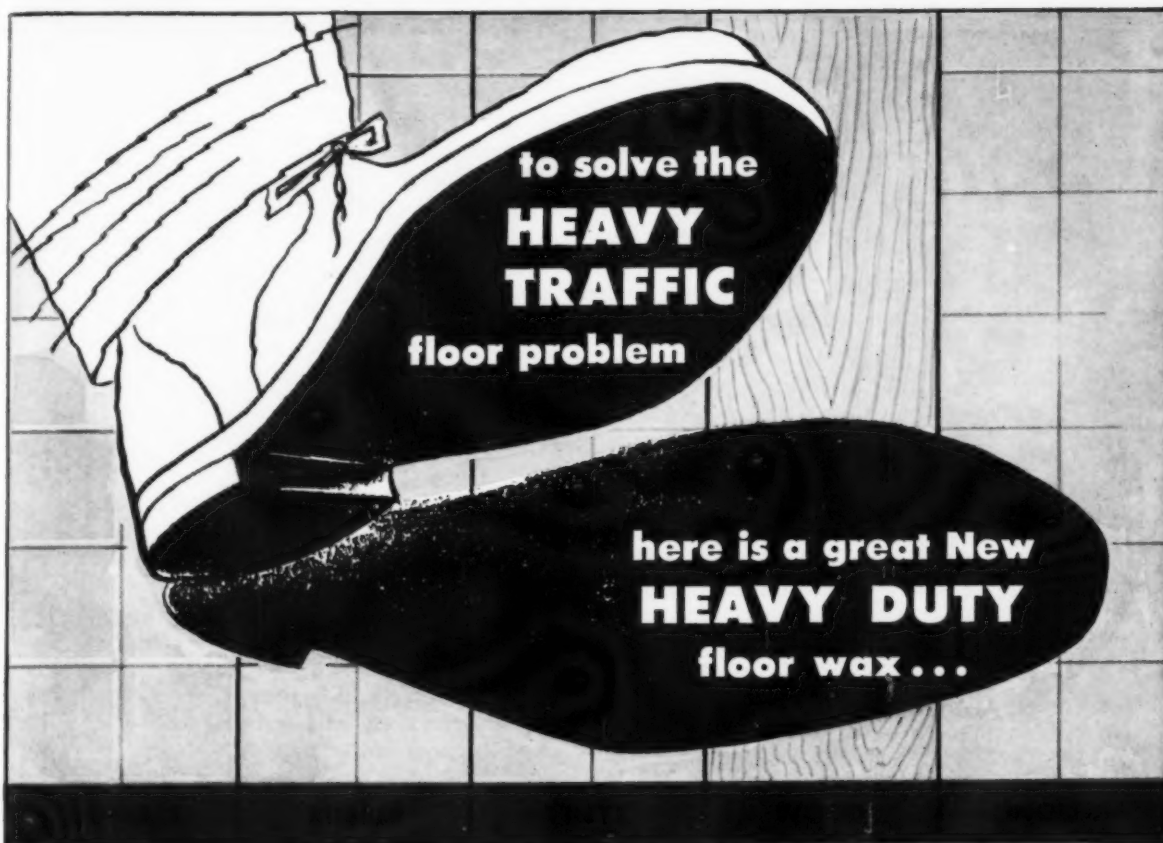
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| 3. Room deodorants | |
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- | | |
|---|---|
| 1. All entries will be made in the name of the brand owner or marketer. | 4. Entries are open to any aerosol brand owner or marketer anywhere, and are not restricted to members of CSMA. There are no entry fees or other charges to entrants. |
| 2. Entries will close October 15, 1953. All entries should be sent as soon after Sept. 15 as possible to the Committee at the CSMA office, and should comprise one completely assembled empty container with attached tag showing (a) name and address of brand owner, (b) filled in entry blank. | 5. Best packages will be selected in seven classes and a "best package in the show" will be named. Judging will be done by a group of qualified experts. Their decisions will be final and will be announced and awards made at the 40th anniversary meeting of CSMA in Washington. |
| 3. Only one entry may be made by any marketer or brand owner in any one class, but entries may be made in as many classes as desired. | |

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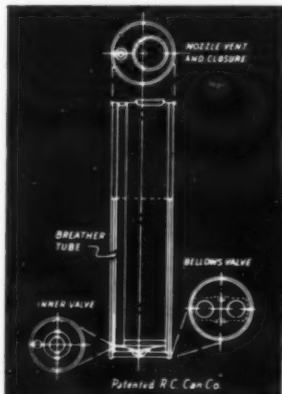
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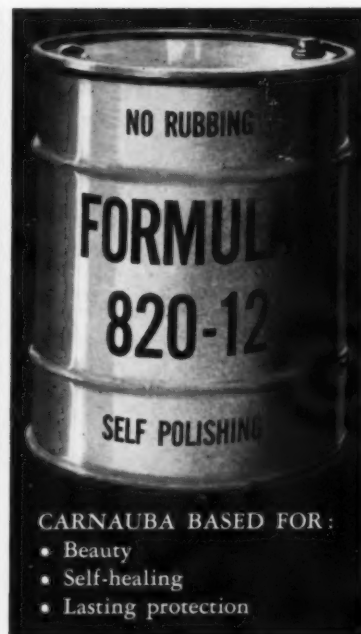
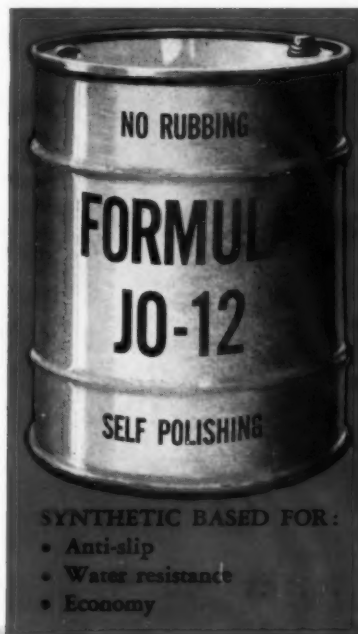
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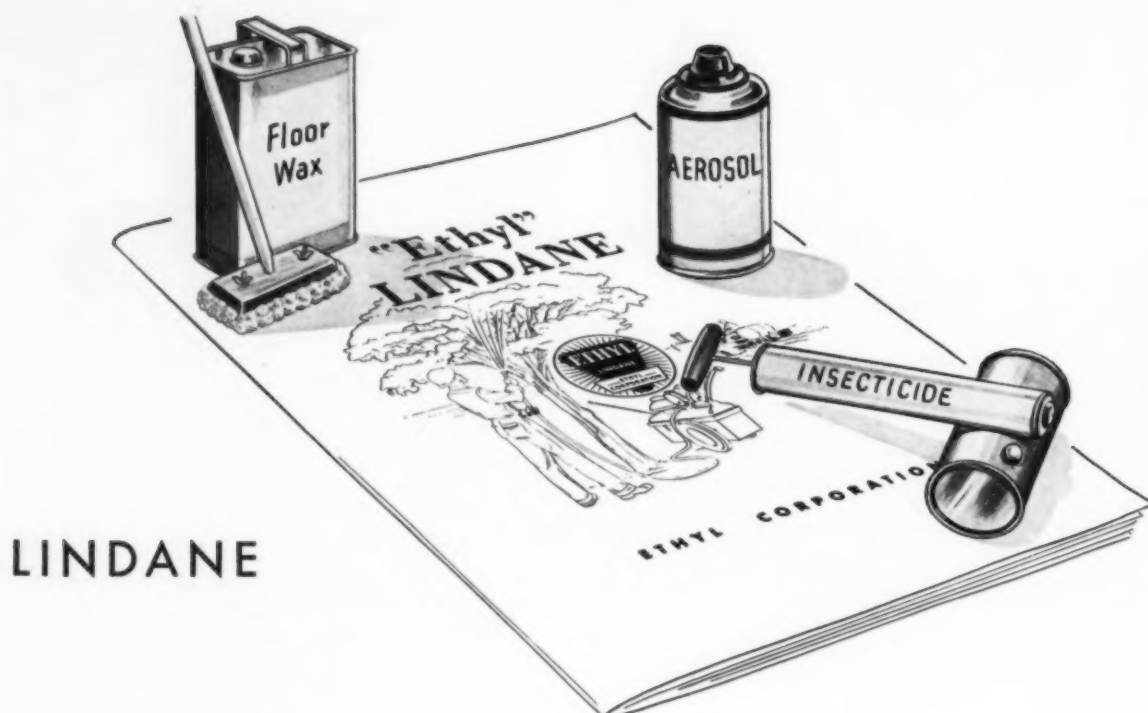
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Phenolic Disinfectants

By Dr. J. L. Boyle

Edinburgh, Scotland

MEDICINAL products, and auxiliaries in the fight against disease, are very numerous but the group of anti-infective agents contains more individual formulations than any other of the groups into which these compounds are classified. For general sanitation or for local application, they include antibiotics, anti-fungal agents, phenol derivatives, dyes, halogen compounds, metal compounds, oxidizing agents and surface active agents.

An anti-infective agent is something which destroys the causes of infection. Micro-organisms are the causal factors in infection. Of these, the fungi are rarely harmful to man but the unsightly, ropy growth which they can form in manufactured products, may ruin the latter's appearance or inactivate some ingredient of it. The presence of bacteria is much more harmful and the wide variety of agents used to destroy them is a reflection of the extensive range of conditions which go to make up their habits, mode of living and resistance to attack.

Clinicians and public health workers are influenced in their choice of disinfectant by fashion and tradition; this is not surprising when one takes into account the inherent difficulties in the evaluation of antiseptics, allied, frequently to the desire to get

something that will kill micro organisms in each of several quite different environments. The extent of these influences depends on the individual's personality. At the extremes, there are some who can be relied on to use the latest discovery and others who will persevere with the old, well-tried formulations, in face of apparently convincing arguments for a younger product.

Phenolics Classified

BECAUSE of the great importance which antiseptics, or disinfection, has for the community, both in its domestic affairs and in the sphere of public health, the search for better anti-infectives will always be worth-while. In this work, there is a broad distinction between agents for specialist purposes, such as the treatment of wounds or the sterilization of skin, and those for general sanitation in homes, hospitals or institutions. For the latter purpose, there is still a popular demand for the phenolic preparations of which there are three kinds: the saponated cresol solution, that has been deleted from the XIVth Edition of the U.S.P.; the chloroxylenol preparations, which do not have the irritant effect on the skin that saponated cresol has and therefore were, originally in favor as skin disinfectants; new phenolics

based on a specially selected close "cut" fraction of phenol homologues, or on synthetically prepared homologues, such as octyl cresol.

The phenols are a series of compounds each possessing the distinctive chemical feature of a hydroxyl group directly linked to a benzene nucleus and which are known in industry as "tar acids." They are so called, because they have weak acidic properties and are obtained from coal tar by processes of extraction and distillation. The first, and by far the most important, member of the series is phenol itself, which is produced by synthetic routes in quantity greater than could be obtained from coal tar. However, the latter is still the source of the alkyl phenols that are used to manufacture disinfectants.

Of the tar acids, phenol has the lowest boiling point and is most destructive to tissue. As the molecular weight increases, the irritant effect on tissue and the toxicity decrease, but, unfortunately solubility in water also decreases and consequently the formulation of water miscible products becomes more difficult. The effects of different molecular substituents on the germicidal action of phenols is not the same for all organisms. The cresols possess a wide, non-specific germicidal action which would be very suitable

for general sanitation purposes. As the complexity of the alkyl group increases, so does the activity against Gram negative organisms but this reaches its maximum with the C_{15} group and then falls off rapidly while the activity against Gram positive organisms continues to increase until the C_{18} derivative is reached (1). Another distinction between molecular configuration and bactericidal potency is that the alkylated cresols are more effective than the corresponding phenols.

Cresol Solutions

SAPONATED Cresol Solution will probably survive, for some time yet, its recent expulsion from the U.S.P. It has the advantages over other disinfectants of possessing a wide range of activity on bacteria and fungi, it gives a clear diluent with water, has a pleasant "surgical" smell, makes good contact with greasy surfaces and is relatively cheap. The disadvantages are that it has an irritant, sometimes even necrotic, action on the skin and the bactericidal value varies with the nature of the oil or fatty acids used in its manufacture.

New Phenolics

IT consists of 50 percent cresol in a soap base solvent. The nature of the soap base is important because it affects the germicidal efficiency of the finished product; linseed oil and castor oil soaps give the highest values, oleic acid soaps the lowest. It is an amber colored liquid, smelling of cresol and soapy to the touch which is miscible with water up to concentrations of 10 percent. It may contain not more than five percent of alcohol to improve its miscibility with water.

The irritating effect of this preparation on the skin, which is the main drawback to its use, is due to the cresols. It has been shown (2) conclusively that a concentration in water which has no harmful effect on the skin is too weak to have a bactericidal effect. For this reason, the chloroxylenol preparations were introduced. They are innocuous to the skin even in their undiluted form and have a powerful germicidal action in B-hemolytic streptococci. But as general disinfectants, they cannot replace saponated cresol because their effect against staphylococci is very limited and against *Ps. pyocyanea*, it is negligible. However, as skin disinfectants they are efficient and popular.

Chloroxylenol Preparations

THE basis of this product is three to five percent of para-chlorometaxylenol with 20 percent of alcohol in a soap base solvent; usually about 10 percent of a perfume containing a blend of terpineol and pine oil is added to cover the odor of the active ingredients. The same soap bases may be used as for saponated cresol and, again castor oil soap is preferred because it seems to be the most effective in reducing the surface tension of water and so enhancing the antiseptic action of the product.

The reason for using soap as a solvent in these preparations is mainly because it reduces the critical solution temperature of the aromatic bactericidal compounds in water and so allows more concentrated solutions of them to be obtained. The same effect follows the addition of alcohol and, by careful adjustment of the proportions of soap and alcohol, a clear solution is obtained containing a sufficiently high percentage of bactericide to be a powerful disinfectant, even when diluted twenty fold with water. When it is diluted in this way, the oil is thrown out of solution but is immediately emulsified by the soap, with the result that a "milky" emulsion is produced. This has the advantage of ensuring uniform distribution of the germicidal compound throughout the solution; if the oil separated from the aqueous phase, its efficacy would be restricted to points where the globules collected. The formation of an emulsion has the further advantage that it raises the efficiency of the product, because emulsions are more bactericidal than true solutions of disinfectants.

The weakness of saponated cresol is its damaging effect on skin; the limitation of chloroxylenol preparations is their restricted range of activity on bacteria. It would appear that for purposes of general sanitation there is a need for a disinfectant having a combination of the good points of each of these two types, namely, a

wide and quick kill, ability to give a clear diluent with water, non-toxic and non-irritant to the skin.

Something approaching this can be achieved by using as the active bactericidal compound a specially selected fraction of coal tar phenols which, though it is free from cresols, is close enough to them in its bacteriological properties to have their disinfectant efficiency. This phenolic fraction does not irritate the skin at concentrations considerably higher than are required for skin sterilization. It contains less than one percent of cresols; other undesirable impurities, such as pyridine derivatives, sulphur compounds and dihydric phenols, have been rigorously excluded (3). The formulation contains 50 percent of this active ingredient in a base similar to that used for saponated cresol. Its activity against seven representative bacterial species—mainly pyogenic and intestinal organisms—was compared with and found to be greater than that of saponated cresol or chloroxylenol in both the presence and the absence of organic matter. It has been pointed out that, in using the higher boiling phenols it is necessary to make sure that carcinogenic compounds are excluded and this point has to be confirmed.

Specially prepared derivatives of cresol, such as a mixture of benzyl cresols, have been put forward claiming to possess desirable properties that enable them to replace cresol as a disinfectant, but usually they fall down on price. However, an interesting product of this type is octyl cresol (4) which is already used in large quantity as an intermediate in the manufacture of detergents, oil additives and plasticizers. It is, therefore, relatively cheap. This compound has been found to be very active against Gram positive organisms, though only feebly active against Gram negative bacteria; its toxicity is very low and it appears to have no irritant effect on the skin. It is used as a germicide and dust suppressant agent in enclosed areas, such as hospital wards, and this duality of action has also been applied with success in the treatment of infected handkerchiefs. The idea is that, by impregnating a handkerchief with octyl cresol, it is possible to prevent dust laden

with bacteria from being shaken out of the handkerchief during use. Such treated handkerchiefs are a measure of protective medicine which reduces the incidence of these infections that are spread mainly by nasal secretion. The treatment consists in adding an emulsion of octyl cresol to the last rinsing water in the laundering operation. About 400 mgm. is deposited on each handkerchief and the cost is very small.

Reversal of Sterility

AN aspect of disinfection which is becoming a more prominent factor in choosing an agent is that of reversibility (5). The destruction of bacteria by a disinfectant is achieved by a chemical reaction between the germicidal compound and a vital part of the bacterial cell and, like all chemical reactions, a certain time must pass before the reaction is completed, that is, before all the bacteria within the system have been killed. As well as the limitation imposed by the speed of the reaction, another limitation sometimes arises from its nature. Some

chemical reactions are reversible and some are not. If the reaction on which the disinfectant depends is reversible, then the possibility arises that the bacteria may be revived by putting them into a different environment. For example, it is known that mercurial disinfectants such as phenylmercuric nitrate, will react with certain thiol compounds to give a product that has no bactericidal action; further, that if organisms which have been treated with such a disinfectant, and apparently destroyed, are later treated with a thiol compound in a favorable environment they will revive and multiply. In this case, the thiol compound has a dual action, it is both an inactivator and a reviver. Thiol compounds may be present in body tissues, for instance, the naturally occurring amino acid glutathione contains this grouping, and the possibility exists, therefore, of pathogenic organisms which have apparently been destroyed by sterilizing with a mercury derivative, being revived and becoming infective

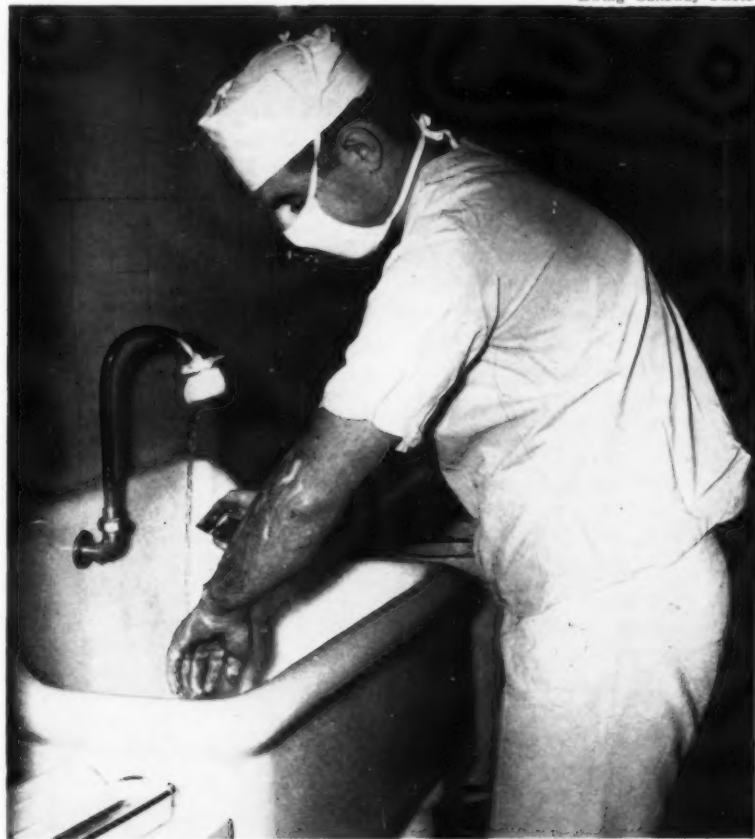
when they find themselves injected into animal tissue.

This distinction between a bacteriostatic and a bactericidal effect, dependent on the presence or absence of compounds that can reverse the chemical reaction which is the basis of antiseptics, is a disturbing aspect and one that is difficult to take into account when evaluating a disinfectant. It makes more important the advisability of having as big a margin of safety, in the germicidal value of a preparation, as possible and in this respect the older phenol-based formulations have the advantage over many of the newer types of disinfectants. It is also in their favor that no reviver is known to be active on phenol-treated organisms.

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Ewing Galloway Photo



AUGUST, 1953

Fuller Brush Co., Hartford, Conn. is promoting an intensified drive for its new line of household cleaning items and cosmetics in door to door sales to Chicago housewives. Included among its "Debutante" line of toiletries are toilet soaps, bath powder, Shampoos, after shave lotion, deodorants, etc., are offered for masculine use. These products, it was learned, are custom manufactured for Fuller Brush Co. by Daggett & Ramsdell Co., Newark, N. J.

Another group of products for home sanitation includes insecticides, moth crystals, disinfectants, room and refrigerator deodorants, liquid wax, cleaners for furniture, glass, floors, etc., metal and silver polishes, bowl cleaner, spot remover, auto polish, sponges, dusting and pressing cloths, and other items. In the 30-page booklet, elaborately illustrated in full color, which salesmen leave at back doors, are shown, also, the familiar Fuller brushes, for every purpose. Housewives were given one day to look through this catalog and it was collected by the salesman on his return next day.



C. C. BAIRD, founder

BAIRD AND MCGUIRE COMPANY began the manufacture of disinfectants in 1910 in small quarters in one of the outlying districts of Boston. With the business well-established at the end of its first two years of operation, the company moved, in 1912, to its present plant location in the town of Holbrook, Mass., about 15 miles south of Boston. So that, although the company has been in business for 43 years, it has been operating in Holbrook for 41 years.

In 1914, the company was incorporated under the name of Baird & McGuire, Inc., with Charles Campbell Baird as its president and treasurer, and James H. McGuire as vice-president and secretary. The newly-incorporated company specialized in the manufacture of disinfectants and coal-tar products for the wholesale trade, which soon became nationally-known as Baird's Certified Products.

The development of new products and the improvement of old standards by the corporation was largely attributable to C. C. Baird's specialized knowledge of the chemistry of coal tar products, and to the scientific research and practical experience in coal tar distillation which he brought to the business. To him quality was the one indispensable ingredient which must be added to all of Baird & McGuire's products.

C. C. Baird's interest and ac-

Baird & McGuire,

tivity in the National Association of Insecticide and Disinfectant Manufacturers (now Chemical Specialties Manufacturers Assn.) dated from the first years of Baird & McGuire's entrance into this field. Realizing the need for closer cooperation among the manufacturers of such products, particularly during World War I and the years immediately following the war, Mr. Baird gave to the associations affairs a liberal share of his time, serving as secretary from 1921 to 1922. He was president in 1923 and 1924.

When Baird & McGuire, Inc., of Massachusetts had developed a business of national scope, the problems arising out of servicing the entire country from one location prompted the creation of an affiliated company to serve the midwest and southwest with the same quality products that had been distributed from Holbrook, Mass. A new corporation was formed in 1924 in St. Louis with C. C. Baird as president and James H. McGuire as secretary. This provided quicker and more economical service to the large territories in the middle and southwest. The corporation at Holbrook continued to supply the territory east of the Mississippi, and all the Pacific Coast through lower shipping rates by water via the Panama Canal.

Shortly after the formation of the Missouri Company, C. C. Baird purchased the entire holdings of James H. McGuire in both the parent company at Holbrook and the corporation at St. Louis. Mr. McGuire then retired from active business. James H. McGuire, co-founder of Baird & McGuire, Inc., and a native of upstate New York, was a graduate of Cornell University. He moved to Massachusetts shortly after his graduation from Cornell and joined a chemical firm which is no longer in existence. He was a member of the Chemist's Club of Boston, where he met C. C. Baird. After resigning as treasurer of Baird & McGuire in 1929, Mr. McGuire became associated with Tar Products

Corp., Providence, where he was in charge of the manufacture of disinfectants. He subsequently joined the disinfectant division of James Huggins & Son, Malden, Mass. Mr. McGuire died at the age of 63 in 1939.

The two companies operated independently for many years manufacturing and distributing identical lines of products for their own territories—maintaining the same quality originally developed by C. C. Baird as "Baird's Quality Products."

The ownership of the St. Louis business of Baird & McGuire Inc., originated by C. C. Baird was transferred to its present owners, James Varley and Sons in 1940.

The founder of both Baird & McGuire corporations, C. C. Baird, died in December, 1940, and was succeeded as president of Baird and McGuire by his eldest son, Gordon M. Baird, who has served the corporation in various capacities since 1932. He had been indoctrinated with the business philosophy and ideals of his father, so that when he took over the direction of the business, it could be truly said that he had been trained by C. C. Baird as his successor in office.

In 1946 G. M. Baird was elected to serve as president of the National Association of Insecticide and Disinfectant Manufacturers, and it was

GORDON M. BAIRD, President



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during his administration that the name was changed to the Chemical Specialties Manufacturing Association in order to embrace the diversifying activities of its members.

Cameron M. Baird, another son of the founder joined the company as a member of the sales staff in 1951.

The Baird & McGuire plant at Holbrook, Mass., affords every facility for prompt shipment of orders. The offices, manufacturing buildings and laboratories, storage tanks and stills, and shipping facilities are located on an eight acre tract of high land near the New York, New Haven and Hartford Railroad lines, from which a private rail siding runs into the plant. Freight service direct from the plant enables Baird & McGuire to ship in both carloads and less-than carloads daily, and their trucks make daily trips to tide water shipping points. This makes it possible for the company to make daily shipments to all parts of the world at minimum rates and with through bills-of-lading issued at the plant.

For South American and for-



eign trade, Baird & McGuire maintain their own export department with offices at 60 Wall Street, New York City, where A. Martinez and an able staff are equipped to correspond with more than 100 customers in distant lands in the various languages of their respective countries, or to meet and transact business when they visit New York City.

All Baird & McGuire plant operations are laboratory - controlled and are conducted on a large scale with the employment of every known scientific chemical test both as to raw materials used and to each step in the manufacture clear through to the final packaging. Daily bacteriological tests

and careful step-by step checks are made in the firm's well equipped laboratory. Dr. Ralph Hamilton, who joined the company in 1952 as research director and chief chemist, brought with him years of valuable experience in the industry. He directs an able staff which is ready and willing to handle the many problems that are encountered every day.

Today Baird & McGuire's line of maintenance chemicals, which started out with coal tar and other disinfectants has grown and is still growing. It now includes cleaners of all types, liquid soaps, paste and liquid solvent type waxes, water emulsion waxes, furniture polishes, glycol sprays, insecticides and DDT concentrates.

At Baird & McGuire's laboratories constant research is the keynote to find new products to make the job of cleaning and maintaining easier, faster and more efficient. They are also striving to improve their standard products in accordance with the latest and most advanced scientific developments in the chemical field. Their pledge to their customers is as always, "Quality and Progressiveness," as symbolized by their acorn trade mark.

No account of the history of Baird & McGuire would be complete without mention of Harry Cole, former president, and for many years secretary of the National Association of Insecticide & Disinfectant Manufacturers. A native of Maryland, he was with the Barrett Company for many years before joining Baird & McGuire, when Barrett discontinued manufacturing disinfectants. Mr. Cole was a stockholder of Baird & McGuire and made his home in Quincy, Mass. He died prior to the passing of C. C. Baird.

Ralph Hamilton, research director, left, and Cameron Baird, salesman.



FOR many years paradichlorobenzene (PDB) and naphthalene have been used as household insecticides for the protection of silks and woollens. Housewives generally seem to place great faith in both compounds and many believe that their mere presence will keep the moths away. There are probably few northern homes where the familiar "moth balls" or cakes or crystals of one or other of the two materials are not used.

The effectiveness of these compounds when properly employed is unquestioned. High concentrations of their vapors will kill all stages of clothes moths and carpet beetles, given sufficient time. However, since both are solids at room temperature (1) and have low vapor pressures, (PDB, 1.0 mm. at 25°C.; naphthalene, 0.1 mm.), toxic concentrations of their vapors are not readily obtained. For this reason, effectiveness is very dependent upon proper use.

Obviously, when the compounds are used in tightly sealed trunks and boxes vapor concentrations slowly increase to saturation and persist as long as crystals are present. Either PDB or naphthalene provides good protection under such conditions. Many manufacturers imply that the compounds are also effective in clothes closets. Their products sometimes display brief instructions for use in closets, and some have devised special containers or developed compressed forms of the compound for easy suspension in closets. Essentially this implication is correct, at least for PDB, provided the material is used in such a way that high vapor concentrations are rapidly produced and sustained for an adequate period. This has been supported by the investigations of several authors, including Herrick and Griswold (2) and Frey (3). However, adequate directions are seldom given on the packages and the information is not readily available to

the consumer. (This may apply in Canada, but in the U. S. the Federal Insecticide, Fungicide and Rodenticide Act of 1947 requires explicit instructions.

At the request of C. H. Jefferson, Administrative Officer, Pesticides, Plant Products Division, Production Service, Canada Department of Agriculture, Ottawa, an investigation of the effectiveness of PDB and naphthalene in clothes closets was carried out. Standard fumigation tests were made to obtain a scientific evaluation of toxicity, but the main tests were practical and designed to determine the most effective methods of home closet fumigation with these compounds.

Methods of Testing

THREE insect species were used in the tests: (a) the confused flour beetle, *Tribolium confusum* Duv.: adult males, 12 to 18 days old; (b) the webbing clothes moth, *Tineola biselliella* (Hum.): full-grown larvae (average weight, 6.7 mgm.); (c) the black carpet beetle, *Attagenus piceus* (Oliv.): full-grown larvae (average weight, 14.6 mgm.). Although not a garment pest, the confused flour beetle was used because of its relatively high sensitivity to the vapors. They were reared on whole wheat flour at 27°C. and 70 per cent relative humidity. Clothes moths and carpet beetles were reared in ground dog food at room conditions.

To determine the relative toxicities of the two compounds, standard fumigation tests were carried out with each species by the Strand technique (4). To obtain known vapor concentrations, weighed amounts of fine crystals were placed in the bottom of Strand flasks, in which the insects were suspended in tubes of bolting silk. The flasks were then placed on a warm surface until the crystals were completely vaporized (usually five to 10 minutes). This temporarily raised the tem-

perature of the air in the flasks at the position of the insects five to eight Centigrade degrees, but did not noticeably affect insects in the control flasks. Twenty-four-hour exposures were used since the standard five-hour testing period was insufficient, even when the flasks were saturated with the vapors. A recovery period of 48 hours was allowed before mortality was estimated. Individuals that were feeble but capable of coordinated movements were regarded as living, and moribund insects were classed as dead.

Practical tests were carried out in a specially constructed closet. The walls, ceiling, and floor were of smooth-surfaced Masonite fitted to a heavy frame so that a tight seal was obtained throughout. The inside measurements were 24 x 36 x 96 inches, the total volume being 48 cubic feet. To reduce the leakage that occurs around a hinged door, the sill was lined with rubber and the door forced into position by six sash locks. Although not air-tight, the closet was undoubtedly superior in this respect to those found in most households. Three shelves, one foot in depth, were arranged at two-foot intervals. Electrical outlets were also installed.

The paradichlorobenzene was in granular form and, unless otherwise stated, crystals that would pass an eight-mesh and be retained by a 12-mesh screen were used. The naphthalene was in small flake form. For testing in the closet the compounds were levelled in a wooden tray having a movable section for changing the area.

Insects were kept in glass refrigerator jars (three inches square) during tests. Screened tops were used to cover jars containing clothes moth larvae, but other jars were open-topped. Flour beetles were given enough flour to cover the bottom of the jars adequately. A piece of army cloth two and one-half inches square was placed in each jar for clothes moth and carpet beetle larvae. In all cases the insects

The effectiveness of these compounds when properly employed is unquestioned. High concentrations of their vapors will kill all stages of clothes moths and carpet beetles, given enough time.

were well exposed to the vapors. One jar of each species was placed on each shelf, or on two shelves and the floor to give two-foot intervals from the source of the vapors. This provided some indication of the rapidity of vapor diffusion and its effectiveness in all parts of the closet. Twenty-five insects were usually used in each jar, never fewer than 10. The closet was aerated with a fan overnight between tests.

The majority of test were carried out during the summer months, when temperature control was not very effective. A thermostatically controlled carbon filament lamp was used to prevent temperatures in the closet from dropping below 23°C. (approx. 73°F.). Generally temperatures varied

between 23° and 25°C., very occasionally rising to 29°C. This range probably differs little from that in most houses and it is unlikely that higher temperatures would be used during household closet fumigation.

Standard Fumigation Tests with Para

THE results of standard fumigation tests with PDB are illustrated in Fig. 1. Points on the graph represent averages of three tests at each vapor concentration. Toxicity was considerably different for each species. The median lethal dosage (LD₅₀) with a 24-hour exposure was 2.14 mgm. per litre for *T. confusum*, 5.62 for *T. bisselliella*, and 8.04 for *A. piceus*. A somewhat clearer indication of the low toxicity is given by the fact that the LD₁₀₀ for the carpet beetle larvae,

approximately 1.1 mgm. per litre, was vapor saturation in the flasks at room temperature.

Standard Fumigation Tests with Naphthalene

STANDARD Fumigation tests with naphthalene were impractical because of its low toxicity. Insects exposed for 24 hours in flasks saturated with the vapor were not sufficiently affected to obtain an estimate of the LD₅₀. This treatment killed 85 percent of *T. confusum* adults, 47.7 percent of the larvae of *T. bisselliella*, and 0 percent of the larvae of *A. piceus*. It was considered inadvisable to extend the exposure beyond 24 hours because of the starvation factor being introduced.

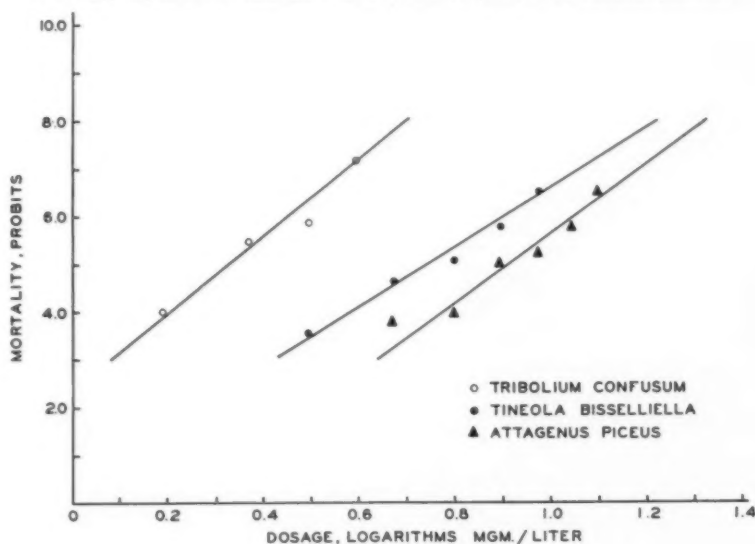
**Tests with Para in Closet
Effect of Crystal Size**

IT has been pointed out (5) that the rate of sublimation of PDB is inversely proportional to the size of the crystals employed. It was of interest to determine whether this was a matter of practical significance in closet fumigation. For this purpose PDB crystals were passed through a series of screens to obtain the following sizes: (a) lumps—smooth-surfaced particles usually more than half an inch in diameter, such as supplied for use in certain vacuum cleaners; (b) particles that passed a four-mesh but were retained by an eight-mesh screen (four—eight mesh); (c) eight—12 mesh; (d) 12—16 mesh; (e) 16—20 mesh; (f) finer than 20 mesh. Five hundred grams of crystals of known size were levelled over an area one foot by six inches on the top shelf of the closet. The door closed and the closet undisturbed for 72 hours, when the loss in weight was determined.

The results of two tests with each crystal size were averaged to give the following amounts of vaporization: (a) lumps, 27.5 gm.; (b) four—eight mesh, 29.0 gm.; (c) eight—12 mesh, 24.0 gm.; (d) 12—16 mesh, 23.0 gm.; (e) 16—20 mesh, 34.0 gm.; (f) over 20 mesh, 26.0 gm. The results show no particular pattern. It must be assumed that at least part of the variation resulted from slight temperature fluctuations in the closet. The

* Associate entomologist, Stored Product Insect Unit, Division of Entomology, Department of Agriculture, Ottawa, Canada.

Fig. 1. Transformed dosage-mortality curve, showing the effect on three insect species of 24-hour exposures to different concentrations of gaseous paradichlorobenzene.



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figures do show, however, that from a practical standpoint crystal size is of little importance when the material is used in this manner. Even the greatest difference in amount vaporized, 11 grams, is not sufficient to alter the effectiveness of the material appreciably. Presumably the theoretical advantage of the fine crystals would be obtained only when they were spread to the point of no contact with one another, a condition that for obvious reasons is impractical in closets.

Effect of Exposed Surface

To determine whether the area over which the crystals were spread was of practical significance, crystals were levelled over different areas on the top shelf and the amount of vaporization and insect mortality were estimated after 24-hour exposure periods. Slightly more (520 grams per 100 cubic feet) was used than is generally recommended by the manufacturers (453 grams). Since larger amounts of crystals were required to cover larger areas, controls with the larger amounts in small areas were also used. The results are given in Table 1. Clothes moth and carpet beetle larvae were considered to be insufficiently uniform to warrant an appraisal of mortalities on each shelf, and only the total mortalities for these two species are given.

The results show that the amount of vaporization is directly related to the area exposed. The amount of vaporization increased with area but did not increase when large amounts of crystals were levelled over

small areas. Mortality of flour beetle adults decreased generally with increasing distance from the source of the vapors except where the greatest area (12" x 30") was exposed. There, vapors diffused throughout the closet quickly enough and in sufficient concentration to kill all of the flour beetles on all shelves.

The effectiveness of suspending PDB crystals in a cheesecloth bag, a common practice, was compared with the preceding method of spreading the crystals on the shelf. Varied amounts of PDB were tied in double layers of the cloth and suspended from the clothes rod for 24-hour periods. The amounts of vaporization were as follows: (a) bag containing 250 gm., 10.5 gm.; (b) bag containing 500 gm., 12.7 gm.; (c) two bags containing 250 gm. each, 17.0 gm.; (d) bag containing 750 gm., 18.5 gm.; (e) three bags containing 250 gm. each, 21.1 gm.

Table 1. Amounts of PDB vaporized from various exposed areas in a clothes closet during 24 hours and mortalities of test insects

Initial Wt. of PDB gm.	Area	Amount Vaporized gm.	Percentage Mortality				
			T. confusum		T. bisselliella	A. piceus	
			2 ft.*	4 ft.	6 ft.	average	average
250	12" x 6"	6.0	0	0	0	0	0
250	12" x 12"	11.5	4	0	0	0	0
500	12" x 18"	19.0	16	24	12	0	0
750	12" x 24"	26.0	56	24	16	4	0
1000	12" x 30"	44.0	100	100	100	22	0
500	12" x 12"	14.5	—	—	—	—	—
1000	12" x 12"	14.0	10	0	0	0	0

* Distance of insects from crystals (second shelf, third shelf, and floor).

Table 2. Amounts vaporized and insect mortalities when 250 gm. of PDB spread over one square foot was exposed for various periods

Exposure hr.	Amount Vaporized gm.	Percentage Mortality				
		T. confusum		T. bisselliella	A. piceus	
		2 ft.*	4 ft.	6 ft.	average	average
24	11.5	4	0	0	0	0
48	23.0	4	6	0	0	0
72	36.9	56	72	36	9	0
96	47.6	100	100	100	37	3
120	56.5	100	100	100	89	4
144	69.0	—	—	—	100	20
168	98.0	—	—	—	—	87

* Distance of insects from crystals (second shelf, third shelf, and floor).

The amount of vaporization from 250 gm. of PDB crystals in a cheesecloth bag is roughly equal to that from the same weight spread over an area of one square foot. Increasing the amount of crystals in the bag did not increase the amount of vaporization appreciably. Evidence that exposed surface was the factor involved is shown by the increased amount of vaporization resulting when the same total weight of crystals was divided among two or more bags.

Effect of Exposure Period

The time required to kill test insects with the normally recommended amount of PDB, one pound per 100 cubic feet, was determined in the following manner. Crystals were levelled over an area of one square foot on the top shelf (this area was close to the possible limit of spread). Insects were placed on the remaining two shelves and the floor. Separate tests with exposures differing by 24 hours were carried out, the closet being aerated and new PDB and insects introduced for each exposure. Results are given in Table 2. Mortalities of clothes moth and of carpet beetle larvae are averaged.

The results show the relative susceptibilities of the three insect species and demonstrate that this dosage, usually recommended by manufacturers of PDB, requires at least one week to give adequate protection under these conditions. The exposed surface of this amount of crystals can be increased somewhat beyond the one square foot used here, thereby increas-



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ing the vapor concentration to some extent, but a minimum exposure of one week would seem essential to destroy all carpet beetle larvae. Without other means of inducing more rapid vaporization, larger amounts of crystals must be used over a greater area if shorter exposures are desired.

The amounts of PDB vaporized showed a more or less linear relationship with time. Since it was subsequently determined that 100 gm. of crystals was sufficient to saturate the closet when rapidly vaporized by heat or air circulation, this linear relationship seems to indicate a slow leakage from the closet or adsorption of the vapors in the walls. It would be assumed otherwise that decreasing amounts would vaporize as the air became more saturated. However, the leakage was obviously very slow and probably much less than would occur from the average household closet, where general construction and fitting of the door are inferior.

Effect of Position of Crystals

The advisability of placing the crystals high up in the closet to increase the speed of diffusion of the heavy vapors was investigated by repeating the previous tests but with the crystals spread on the floor and the insects on the three shelves. The results are given in Table 3.

The results show a definite decrease in amount of vaporization and speed of diffusion. The slow rate of diffusion upwards is well illustrated by the mortalities of the flour beetle adults on the three shelves. After four

days, mortality was only four percent on the top shelf, six feet above the crystals, whereas it was 100 percent on the bottom shelf, and until the seventh day a wide differential in mortality existed on the various levels. The vapors evidently tend to remain close to the floor, consequently reducing the amount of vaporization and appreciably increasing the required exposure for effective control in all parts of the closet.

Use of Heat for Vaporization

The vaporization of PDB by heat is an obviously effective method of producing high vapor concentrations in a relatively short time. Although it is impractical and dangerous for housewives to attempt to use ordinary heaters in their closets for this purpose, heat-vaporizer units for PDB that presumably are safe to use are available. Two types were tested in the closet. One was a large unit utilizing a 100-gm. cake of PDB. The other was a small socket type into which small pills of PDB were inserted. Each was tested simply by plugging into the electrical outlet in the closet and closing the door for various periods.

The large unit vaporized 100 gm. of PDB within 24 hours. Insect mortality with this unit was as follows: (a) 24-hr. exposure: four beetle adults, 100 percent; clothes moth larvae, 68 percent; and carpet beetle larva, 32 percent; (b) 48-hour exposure: clothes moth larvae, 100 percent; and carpet beetle larvae, 93 percent. A vaporizer unit of this type has obvious merit since it reduces the re-

quired exposure from one week by the normal method to two days.

With the small unit it was necessary to open the closet each day to insert another pill. After four days of this procedure, mortality of flour beetle adults was 16 percent and there was no apparent effect on the other two species. Small units of this type apparently are unsatisfactory for controlling garment pests. The amount of material vaporized is small, and the necessity of opening the closet daily to insert more crystals decreases the vapor concentration already produced.

Use of Air Circulation for Vaporization

The circulation of air is another obviously effective method of increasing PDB vaporization and of rapidly diffusing the vapors throughout the closet. This was tested with a household fan (four inch blades) as the source of air movement. The following is a brief summary of the tests and results: (a) 250 gm. spread over one square foot on the floor; fan directed over the crystals and about six inches from it; 139.5 gm. vaporized in 24 hours; mortality 100 percent for all three insect species in 24 hours. (b) 500 gm. spread over two square feet on the floor; fan one foot away and directed above the crystals; 127.7 gm. vaporized in 24 hours; mortality 100 percent for all three insect species in 24 hours. (c) 250 gm. spread on the top shelf; fan placed on the floor; 159.0 gm. vaporized in 48 hours; mortality 100 percent for all three species in 48 hours.

This technique has much to commend it. It appreciably increases the amount of vaporization, circulates the vapors throughout the closet, and thereby reduces the necessary exposure from seven days to one. The results show that the standard dosage is adequate with this technique and no advantage is gained by increasing the amount of crystals.

Certain vacuum cleaner manufacturers apply the principle of air circulation for closet fumigation with their cleaners. Warm air from the blower end of the vacuum cleaner is forced through an attachment containing lumps of PDB and causes very rapid vaporization. One machine of

Table 3. Amounts vaporized and insect mortalities when 250 gm. of PDB placed on the floor

Exposure hr.	Amount Vaporized gm.	Percentage Mortality			A. piceus average
		T. confusum 2 ft.*	T. confusum 4 ft.	T. confusum 6 ft.	T. confusum average
24	14	0	0	0	0
48	20	12	4	0	0
72	29	22	0	0	0
96	37	100	8	4	37
120	47	100	14	4	50
144	61	100	42	14	61
168	80	100	100	96	81

* Distance of insects from crystals (first, second, and third shelf from the floor).

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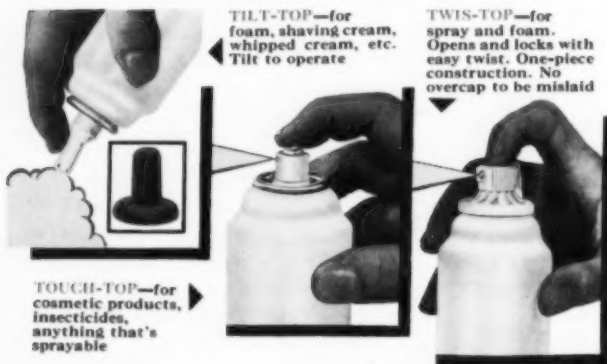
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this type was tested. The container was filled with the lumps of PDB supplied by the vacuum cleaner manufacturer (approx. 140 gm.) and the cleaner was placed on the floor of the closet. The door was closed and the machine plugged in from outside and allowed to run for 30 minutes. All of the material was vaporized in this time and the inside of the closet was coated with sublimed crystals, indicating complete saturation of the air. The closet was left closed for different periods and insect mortalities were estimated. The results were as follows:—eight-hour exposure: mortality of clothes moth larvae 100 percent, of carpet beetle larvae 83 percent; 16-hour exposure: mortality of carpet beetle larvae 97 percent; 24-hour exposure: mortality of carpet beetle larvae 100 percent.

To test the effect of small amounts of leakage from the closet on the efficiency of the vacuum cleaner method, a hole one inch in diameter was bored in the closet wall one foot from the top and one the same distance from the bottom. The tests were repeated, with only carpet beetle larvae as test insects. Under these conditions mortality was 72 percent after a 24-hour exposure and 100 percent after 48 hours.

A type of vacuum cleaner that employed a somewhat different system for PDB fumigation was also tested. It incorporated an attachment by which PDB crystals were reduced to a powder and blown into the closet in this form. Carpet beetle larvae only were used as test insects. The tests and results were as follows:—(a) 100 gm. of PDB blown into the closet through a hole bored in the center of one wall: mortality 80 percent after 24 hours; (b) 200 gm. blown into the closet through the partly open door, which was then closed; mortality 92 percent in 24 hours; (c) 100 gm. blown into the closet through a hole in the wall one foot from the top: mortality 95 percent in 24 hours.

The results show that this method is slightly less efficient than the former, but is still highly effective. Its inferiority probably results from the interval between the deposition of

the dust and the achievement of vapor saturation.

Use of Para in Garment Bags

THE effectiveness of PDB in garment bags was very briefly tested. Two bags were used, one of plastic, the other of a heavy rubberized material, both having a zipper closure. In most of the tests PDB crystals were placed in a container that may be considered typical of a number that are available for this purpose. It was of cardboard, approximately seven inches square by one inch deep, and provided with several rows of narrow slits for the escape of the vapors. When full it contained approximately 500 gm. of crystals. In testing, the crystals were suspended from the top of the bag, the insects placed in the bottom, the zipper closed, and the bag left undisturbed for one week. Results were as follows:— (a) plastic garment bag; cardboard container of crystals; mortality of flour beetle adults 48 percent; no mortality of clothes moth and carpet beetle larvae. (b) rubberized garment bag; cardboard container of crystals; 41 gm. vaporized; no mortality of clothes moth and carpet beetle larvae; flour beetle adults not used. (c) plastic garment bag; cheesecloth bag containing 250 gm. of crystals; 71.5 gm. vaporized; mortality of carpet beetle larvae 0 percent; no other test insects used.

Further tests were carried out with the rubberized bag and the vacuum cleaner. Directions for fumigating the bag were followed. One hundred and forty grams of PDB were vaporized, the vapors passing into the bag during the required 30 minutes. The bag was left closed for 24 hours. With this exposure, carpet beetle larvae on the floor of the bag in the direct blast of the air suffered 22 percent mortality. Those in a bolting silk tube placed in the pocket of a coat suspended in the bag suffered only four per cent mortality.

In general, garment bags appear to be ill-suited for fumigation, apparently because of escape of the vapors, possibly through the zipper. Containers for crystals also seem to be impractical because of the small area exposed. Almost twice as much vapor-

ization occurred from 250 gm. of crystals in a cheesecloth bag as from 500 gm. in the cardboard container. The use of a vacuum cleaner for garment bag fumigation is also inefficient, since the PDB vapors are forced out of the bag as fast as they are introduced, the resulting concentration being low.

Practical Tests with Naphthalene in Closet

NAPHTHALENE was so ineffective in closet fumigation that only tests for maximum effectiveness were carried out. The tests and results are listed below.

- (a) 250 gm. levelled over one square foot on the top shelf; exposure seven days. Weight vaporized, 10.5 gm. Mortality zero for all three species.
- (b) 500 gm. levelled over two square feet on the top shelf; exposure six days. Weight vaporized, 28 gm. Mortality of clothes moth larvae 15.5 percent of carpet beetle larvae 16 percent (average of three shelves).
- (c) 100 gm. levelled on the floor; fan directed on it from six inches; exposure 24 hours. Amount vaporized, 35 gm. No mortality of carpet beetle larvae.
- (d) 75 gm. in the large heat-vaporizer unit; exposure 48 hours. Amount vaporized, 46 gm. No mortality of carpet beetle larvae.
- (e) 75 gm. in vacuum cleaner unit; cleaner in operation within the closet for 30 minutes; exposure 16 hours. Weight vaporized, 23 gm. No mortality of carpet beetle larvae.
- (f) 350 gm. of naphthalene "moth balls" on the top shelf; exposure seven days. Weight vaporized, 13 gm. Mortality of clothes moth larvae 14 percent, of carpet beetle larvae 0 percent.

These results clearly show the ineffectiveness of naphthalene for general closet fumigation by these methods. Its low vapor pressure and low toxicity combine to make it inadequate except under conditions of tight storage where high vapor concentrations can be maintained for long periods. It is possible by the use of heat

(Turn to Page 155)



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Some recent design improvements in

Compression Sprayers

By Frederick W. Knipe

Division of Medicine and Public Health,
The Rockefeller Foundation

A COMPRESSION sprayer^a, as defined by the Expert Committee on Insecticides of the World Health Organization, is "a pneumatic, pre-pressurized apparatus designed for the application of insecticides, herbicides and fungicides in solution or suspension, based on the principle of positive pressure."

This definition, in listing some of the requirements of a compression sprayer, states that, "The pressure is normally furnished by a hand-operated pump incorporated in the apparatus; but it may be supplied from an independent source. The tank is circular in shape, with a working capacity of approximately 7.6 to 15.1 liters (two to four U. S. gallons)^b. The sprayer is fitted with one or two straps for convenience in carrying."

The general characteristics of a compression sprayer are thus clearly defined. However, the requirements for practically any mechanical apparatus depend upon what the individual using it believes is needed in his particular work. Therefore, no absolute specifications can be drawn up which will satisfy all the interested parties. A reasonably wide choice of features, within the limits of what the manufacturer can afford to produce, should be offered to potential purchasers. It is the intention in this paper to discuss some of the functional elements which individuals interested in compression sprayers may look for and expect to find in this type of equipment.

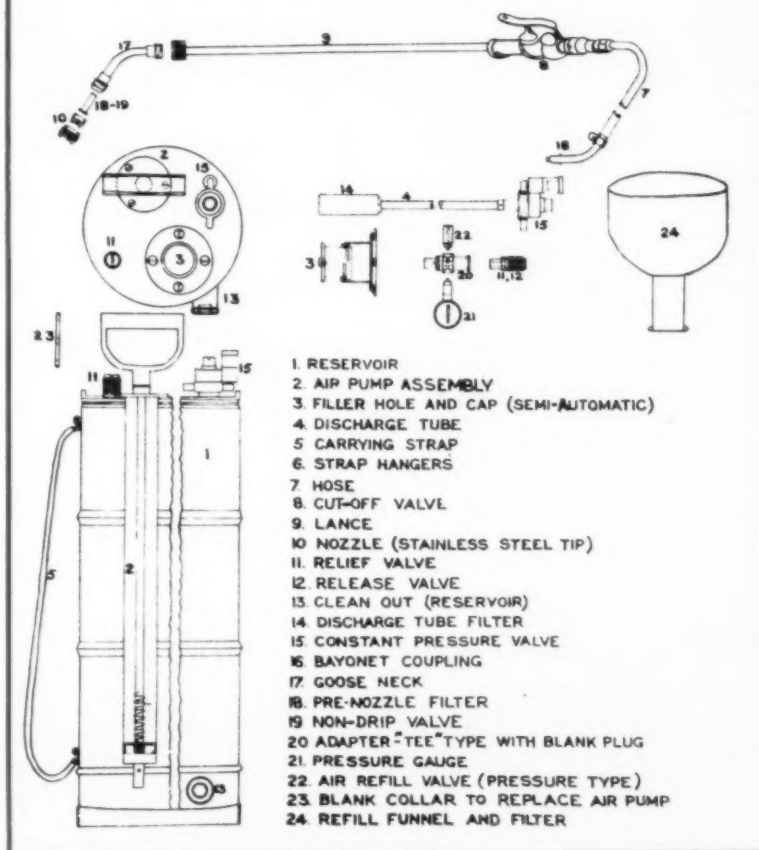
Every manufacturer is interested in increasing his market. In addition, the more units of a standard product sold, the lower the maker's cost. Therefore the producer tries to

manufacture a standard product which will satisfy the maximum demand. Invariably, this demand is somewhere near the mean utility possibility of the article. The fringe utility value, requiring a wider variation in functional features, suffers in consequence. For instance, there has been much discussion of the importance of a pressure gauge on a compression sprayer. Under certain circumstances, it may be re-

quired, but not under others. Certain makers incorporate this feature on their equipment, while others do not. As a consequence, in order for the two models to compete in the open market, the maker who installs the gauge may furnish a cheaply made one which soon becomes inaccurate or fails entirely. Other similar examples could be cited.

A standard compression sprayer is needed which both meets the manu-

Figure 1. Suggested functional elements for a hand operated compression sprayer. (Assimilated model—not drawn to scale.)



^aTerms used in this paper comply with W.H.O. standards. Technical Report Series No. 46.
^b1.66 to 3.33 Br. imp. gallons.



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facturer's minimum cost requirements and permits the purchaser to choose those features which are best adapted to his needs.

One way to achieve this would be to develop a sprayer which, while meeting minimum requirements, would be so constructed that purchasers could specify individual functional elements. These could be added to the standard minimum apparatus at nominal cost and without redesigning the sprayer.

In order to discuss such a sprayer, it is necessary to establish minimum requirements. The apparatus must first of all be made adaptable to as many uses as possible. It is believed that those features listed below will serve equally well any of the following purposes: larviciding; residual spraying; indoor and outdoor space spraying, where a hand sprayer is considered inadequate; many agricultural and horticultural activities; individual household and home garden use; truck or vegetable garden spraying; vineyard spraying; and probably others.

It is not necessary to discuss the quality of materials or the adequacy of construction. These are the responsibility of the maker and the average small user, to whom most sprayers are eventually sold, may not be skilled in judging strength of material or quality of workmanship. However, the specifications recommended by the World Health Organization should be considered as minimum.

Minimum Specifications

THE minimum structural features needed to meet the demand in these varied fields appear to be as follows:

Reservoir (1)*. A reservoir of sufficient capacity. This is a difficult requirement to meet, since no one size may serve all clients. Probably at least two sizes are needed, but variations within the W.H.O. suggested range should be adequate for nearly all practical purposes.

Air Pump (2). A hand-operated air pump, capable of developing sufficient pressure after one pumping (cycle) to void the reservoir of the

maker's recommended quantity of liquid contained therein. The pump should be easily operable, but should develop the required pressure with a minimum number of strokes by the operator.

Filler Hole and Cap (3). The style of this opening may vary widely. It may be circular or oblong in shape, threaded in place or held in place by pressure. It may open internally or externally, manually or automatically with the weight of the entering liquid. These factors are of importance only in so far as they are functionally useful, which often may depend upon good workmanship and individual preference.

Discharge Tube (4). This tube must extend from near the bottom of the reservoir to a point where it can be connected with the spray hose, usually emerging through the reservoir cover plate.

Carrying Straps (5). One is required. Two may be used. These should be of sufficient length, width, and quality to permit nontiring shoulder transport.

Strap Hangers (6). These should be attached so as to provide good balance when the reservoir is suspended from the shoulder and to prevent leakage from the reservoir where the hanger and the reservoir join.

Distribution Elements

IT IS believed that this completes the list of minimum requirements for the compression sprayer unit. However, in order to become functional, distribution elements must be added. A minimum list of these follows:

Hose (7). The hose should be chemically resistant to hydrocarbon products and to modern insecticide formulations in solution, emulsion, or suspension. For individual operation, the hose should be approximately one meter (40 inches) in length. Lightweight synthetic materials may be preferable.

Cut-Off Valve (8). This unit should be light in weight and semiautomatic (self-closing).

Lance (9). The lance should be straight, about 60 cm. (24 inches)

long per section, and fitted with couplings to permit quick attachment to the hose and nozzle. Easily detachable, leakproof bayonet-type couplings (16) may be preferable.

Nozzle (10). Nozzle designs vary greatly. The least expensive types usually generate hollow cone sprays which are suitable for a wide variety of operations where coarse and uneven patterns are satisfactory.

The above-mentioned elements meet the minimum requirements for a complete compression sprayer working unit. It will be noted that gaskets were not mentioned. When gaskets are used, they should be of adequate dimension, tough to withstand wear, and chemically resistant to withstand deterioration.

Screens and filters have not been mentioned, but suggested practices will be discussed later. It may be possible to eliminate filters within the apparatus if the user pays strict attention to filtering spray liquids at least twice before they are poured into the reservoir. However, this is not considered the best practice. In this connection, it should be pointed out that the reservoir should always be thoroughly cleaned both before and after use, whether or not the practice of prefiltering is followed.

Any additional functional elements which special spray operations require should be made available on option. Most of the equipment which should be available is listed and described below. The majority of these elements have been designed and developed and may be found on the market.^c

Semiautomatic Filler Hole and Cap^d (3). A filler hole and cap which is semiautomatic to the extent of being self-closing has been designed. After closure, the greater the pressure developed within the reservoir, the tighter the internal closure cap presses against the filler hole seat gasket.

Funnel (24). A properly designed funnel fits into the filler hole.

^cGaleazzi—Rome—Italy.
Vernorel—Villefranche—Rhône—France.
H. D. Hudson Mfg. Co., Chicago, Ill., U.S.A.
Lofstrand Co., Rockville, Md., U.S.A.
Dobbins Mfg. Co., Elkhart, Ind.
R. E. Chapin Mfg. Co., Batavia, N. Y.
Lowell Mfg. Co., Chicago
^dDesigned by the author (1951).

* Numerals refer to element in Figure 1.



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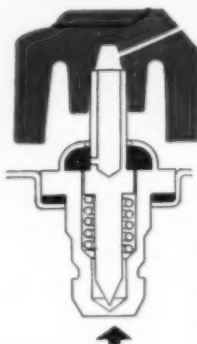
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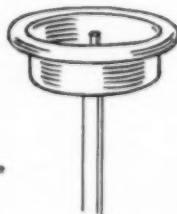
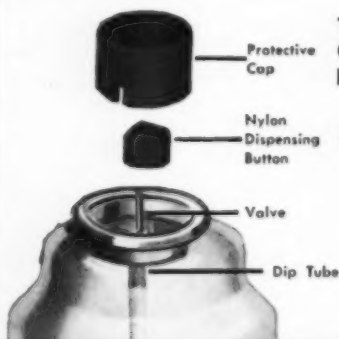
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The weight of this funnel depresses the cap and opens the filler hole when internal reservoir pressure is equalized with external air pressure. This action permits quick, nonspilling refill of the reservoir. The funnel should be equipped with a screen mesh which filters out all solid particles equivalent to or larger than the smallest nozzle orifice to be used.

Filter (14). Intake end of discharge line. This filter should be the same degree of fineness as the funnel filter. It should be quickly replaceable and designed to facilitate easy cleaning.

Constant Pressure Regulator Valve (15). This is a regulating valve, placed anywhere in the discharge line at the convenience of the manufacturer, which guarantees fixed pressure on the nozzle. It assures uniform distribution of residual spray liquid whenever pressure in the reservoir is above the nozzle pressure required. It is a fairly costly element, indicated for use only where a high degree of uniformity and economy in insecticides is a major factor. In certain instances it is well worth the cost. It is recommended by the Expert Committee on Insecticides of W.H.O.

Gooseneck Attachment (17). This curved pipe, angled brass fitting, or angled nozzle permits an unobstructed view of the pattern during spray application. It also permits far more accurate manipulation of the nozzle. It should be given high priority on the required list of secondary equipment.

Pre-Nozzle Filter* (18). An easily detachable and readily cleanable filter of the same screen dimensions as the funnel filter should be placed as near to the nozzle as possible.

Nondrip Valve† (19). A nondrip valve which completely prevents loss of liquid and dripping should be provided. This may be attached as an accessory to the pre-nozzle filter or may replace this filter. It consists of a spring-loaded flat brass disk which closes over the filter discharge opening or over the (discarded) filter seat.

Nozzles. Nozzle types are many

*Designed by author (1951).
†Designed by author (1950).



New Chapin Mfg. Co. compression sprayer which features a carbon dioxide cylinder to eliminate hand pumping.

and varied. Two types are in general use. One of these is the hollow cone model, which is comparatively inexpensive to manufacture and consequently widely used. It is adequate for many technical and for practically all nontechnical spray applications. Models are available which can be adjusted to produce various particle size sprays. These variable models, though sometimes advantageous, are relatively expensive.

The flat spray nozzle, which is more nearly a precision tool, is apt to be more costly. It can be used for practically all operations where the cone-type nozzles are used. It is also adaptable to more accurate work, such as precise applications of residual insecticides.

The cone spray and the flat spray nozzles have one common weakness. The orifice in both is subject to more or less rapid abrasion, depending upon the material used. When solutions or emulsions are used, this action is slow; but when wettable powders formulated with abrasive diluents are used, wear may be very rapid. Abrasive action has been known to enlarge an orifice to twice its normal size in as little as one working day. Efforts by manufacturers to overcome this difficulty have not been too successful. However,

a number of makers are now using stainless steel[‡] either for the entire nozzle tip or as a cone containing the discharge orifice. Since discharge of any material under pressure through a small orifice must cause some abrasive action, the makers of nozzle tips should use the best materials available. Furthermore, the formulators of insecticides should use the least abrasive materials possible in their formulations. In Figure 1 a stainless steel orifice tip is pressed into the brass carrier tip.

Relief Valve (11) and Pressure Gauge (21). Users are not in complete agreement as to the need for either a relief valve or a pressure gauge on a compression sprayer. The model in Figure 1 is adaptable for use either with or without both of these devices or with one of them. As standard equipment, the illustrated model does carry a relief valve which has a knurled facing throughout. The valve serves two purposes. The first, and perhaps most important, is as a release valve, a hand-operated element brought to react whenever pressure inside and outside the reservoir must be equalized. An orifice is drilled through the threaded skirt of the relief valve and is completely closed when the valve is tightly in place. When pressure stabilization is desired, the entire relief valve is unscrewed slowly until the drilled orifice (the release valve) (12) opens. Stabilization then takes place. The second function of this combination is to react as a normal relief valve when excessive pressure is developed in the reservoir. This is discussed at greater length below.

On the model shown, a special adapter[§] (20) may be attached to the threaded skirt of the relief valve and screwed in place in the reservoir top. This "Tee" adapter is provided with two threaded side outlets, which serve two purposes. First, they permit the use of a pressure gauge (21). Second, a tire-type air valve assembly (22) can be screwed in place if the reservoir is to be recharged with air from a central supply, such as an automobile tire compressed air unit. Air pressure can then be introduced through this valve. A pressure gauge may not be
(Turn to Page 151)

[‡]Type illustrated designed by author (1951).

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New Aerosol Filling Unit

A NEW type, high-accuracy, portable, "Freon" filling line for aerosol products was announced recently by Oil Equipment Laboratories, Inc., Elizabeth, N. J., manufacturers of "Pres-O" aerosol valves. Users of aerosol valves made for a number of years by the designers and builders of the new unit have been making their own custom filling equipment, according to Oil Equipment Laboratories. In order to expand the market for their valves they have developed and built this new type filling equipment. With these machines it is possible to fill completely by pressure up to 10,000 cans a day per head with a high degree of accuracy and a "Freon" loss of less than two per cent in a very small space and at very little expense. The machine recently underwent extensive testing on production runs at the plant of a large aerosol producer and results were said to be highly satisfactory.

It is Oil Equipment Laboratories' plan to lease these machines to firms interested in filling aerosol pressure type products of any kind. The firm states that it is unnecessary to use any refrigerating equipment in the filling operation. A high degree of accuracy can be obtained as well as greatly reduced losses of propellant, with the machine, according to the maker. Savings are also made by eliminating much of the heat necessary to raise the temperature of the packages for test purposes. The machines require 110 volt, 60 cycle current and an air hose carrying approximately 100 pounds pressure.

The new filling machines are light in weight and compact. Each machine takes up a bench space of approximately 15 square inches. On foam type products only the "Freon" loading machine is required. It may be used in conjunction with a conventional liquid filler. For spray type products, the manufacturers have equipment available for evacuating the can, loading the propellant, and a

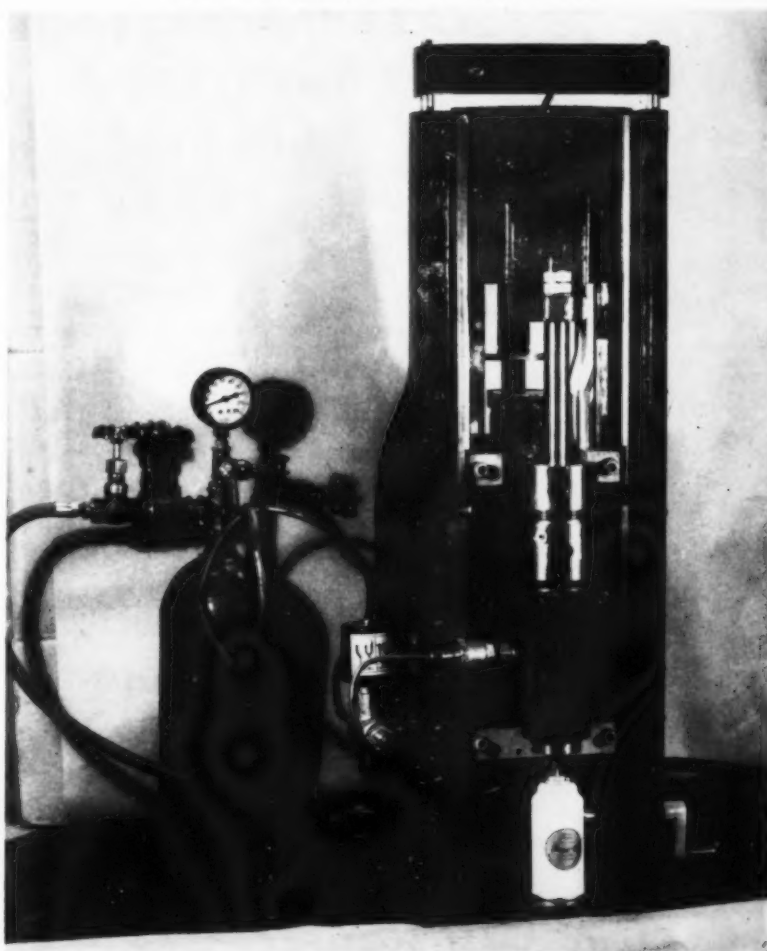
similar type machine for the product. Machines can be adjusted to fill any amount from 12 ounces down to a few grams with a tolerance of approximately one-half gram. Adjustments are made within the range by one simple control. Product changeovers can be made in a matter of minutes. Since these machines are designed to be used with special types of valves, the manufacturers plan to lease them so that minimum capital outlay is required.

The machines may be seen in operation at the "Pres-O" valve maker's plant in Elizabeth, N. J. John M. Wittke and John E. Ayres, operators of

Oil Equipment Laboratories, Inc., manufacturers of the machines are said to have produced the first successful aerosol used on any nationally advertised cosmetic or toiletry preparation. They are presently manufacturing foam and spray type valves for shaving creams, hand lotions, insecticides, room deodorants, fire extinguishers, and other conventional aerosol products, including whip cream.

"Pres-O" valves come in three styles: "Tilt-Top," which is operated by tilting the package and applying light finger pressure which deflects the spout; "Touch-Top," operated by finger pressure on the crest; "Twis-

New portable aerosol filler of Oil Equipment Labs.



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Top," a new type of valve styled for appearance and elimination of over-caps or other parts which have to be removed from the package. It is opened and closed by a twist, using finger and thumb. Oil Equipment Laboratories also manufacture a lock-nut type spout dispenser. All three types of valves can be filled using the new gassing machine.

Oil Equipment Laboratories, Inc., was established in 1930 and presently occupies 12,000 square feet in a two-story plant located in the center of Elizabeth, N. J. The company employs approximately 150 people. Besides the new gasser and the standard "Pres-O" valve, "Rotoflame" oil heating equipment and special radio equipment for the Army Signal Corps is manufactured by the firm. The company expects to open a new plant in addition to its present plant in the near future.

Why of Research

(From Page 44)

that company recorded for all of its products as recently as 1943.

By comparison, the toilet article and cosmetic industry is woefully weak on complete product research programs. We depend mostly upon the "cook book magic," on the intuition and hunch of a few cosmetic chemists coupled with high powered selling and advertising preaching a story of romance and mystery, an atmosphere of glamour, "exclusivity," preciousness and costliness—resulting in limited sales to only a fair percentage of the people.

New products, new appeals, new uses, improved quality and better values can expand the market to reach the relatively untapped mass market. More and more women of all classes are now buying toilet articles and cosmetics and they are now buying in all kinds of outlets: Department stores, drug stores, package stores, variety and syndicates and food stores.

People are buying over one billion dollars worth of toilet articles a year. Yet there is no reason why that couldn't become two billion dollars in the next decade. A continuation of our

past growth will easily make that possible.

For example, using the year 1945 as a base, we find that for the year 1952 sales of varied products have gone up as follows:

Total dentifrice market, 217%; total shampoo market, 274.3%; total deodorant market, 219.7%; total shave cream market, 231.5%; total home wave market, 656.6%.

Obviously these increases are much greater than our growth in population and the increase in toilet goods prices.

What does this mean for the industry and for individual companies? Increased sales volume and profits in spite of increased competition not only between products and brands within our own industry, but also from other industries. Improved quality and values, new products, new services at reduced costs—all these will enable us to hold our own in this struggle.

What do we need to accomplish this? Product research! Let's each of us set up a definite product research plan. Start conservatively with a budget of say 2% of our sales. Then as it proves itself, increase it to 3, 4, or 5%. It pays.

Add the constantly expanding research of progressive companies to our population growth and to our expanding economy and it does not take a congenial optimist to decide that the growth trend in the toilet article industry will not only continue but expand rapidly and greatly.

Future success lies in what is done with product research. As Gilbert Chesterson said: "I do not believe in a fate which falls upon a man regardless of how he acts, but I do believe in a fate which falls upon him unless he acts."

Compression Sprayers

(From Page 147)

required in this case, since the relief valve should be set to function when sufficient pressure has been induced. However, if the purchaser desires a pressure gauge, this may be had by adding a second relief valve adapter or

a single adapter with a "Tee" outlet. The release-relief valve combination fits into the head of the "Tee" adapter. A blank threaded plug should be provided to close one adapter opening when not in use.

The top of the reservoir would then be equipped with a semi-automatic filler hole, a hand air pump assembly unit, a constant pressure control valve, a relief valve unit combined with a release valve, a pressure gauge, and an automatic refill air valve.

The hand pump assembly may not be needed when the automatic refill air valve is being used. In the illustrated model, it is quite simple to remove this unit and to replace the pump-reservoir assembly collar with a blank collar* (23).

Since the automatic filler valve opening shown in the model is small and to all intent a closed unit, provision must be made to clean the inside of the reservoir. A side outlet plug (13) just above the bottom skirt is provided for this purpose. It may be opened and closed with a specially supplied octagonal offset wrench.

In operation, the model shown in Figure 1 requires somewhat less than 100 full strokes of the air pump plunger to build up enough air pressure in the reservoir to completely discharge one round of liquid when filled as recommended. When equipped with a regulated constant pressure valve, complete discharge should take place at about one atmosphere (14 plus P.S.I.)

Summary

THE described elements of a compression sprayer unit approximate most of the requirements established for such units by the World Health Organization Expert Committee on Insecticides as far as functional features are concerned. These features have been discussed with a view to aiding the purchaser in looking for and selecting the elements which meet his personal requirements.

McKhann Joins Zonite Bd.

Dr. Charles F. McKhann has been elected a member of the board of Zonite Products Corp., New York.

^hOriginal design by author (1951).
^kSuggested by author (1951).

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Continental Ups Pond

Appointment of J. W. Pond as district sales manager for the Atlanta sales district of its Fibre Drum division, was announced recently by Continental Can Co., New York. He joined Continental in 1948, and was the sales representative in Atlanta for the Fibre Drum division, just prior to his present assignment.

USI-Niagara Agreement

An agreement has been reached between the Niagara Chemical division of Food Machinery and Chemical Corp., New York, and U. S. Industrial Chemicals Co., division of National Distillers Products Corp., New York, for the sale and distribution of USI's "Pyrenone" wheat protectant and "Pyrenone" grain protectant by Niagara, John A. Rodda, manager, insecticide sales of USI, announced recently.

New Hopper Brush

A new water-resistant hopper brush designed to avoid shedding or matting has recently been introduced by Fuller Brush Co., Hartford, Conn. The specially-curved brush, which cleans easily under edges, is made of non-absorbent nylon fibres. The brush head is permanently attached to a smooth wooden handle.

EDTA

(From Page 87)

EDTA per gram of product). A calibration curve for this is derived from test solutions containing three mg., 3.9 mg., and 4.5 mg. EDTA prepared and treated in accordance with the procedure as above indicated and plotted as shown in Figure 3. When making an analysis, a three mg. EDTA test solution for use as reference is run through the test procedure at the same time as the sample solution.

Application to Triethanolamine Coconut Fatty Acid Soap

A TRIETHANOLAMINE coconut fatty acid soap containing 20 percent of the soap in water was

Table V: Transmittances on test solutions containing 1.0 gram of 20 per cent triethanolamine coconut fatty acid soap in 96 ml distilled water, treated in accordance with the procedure

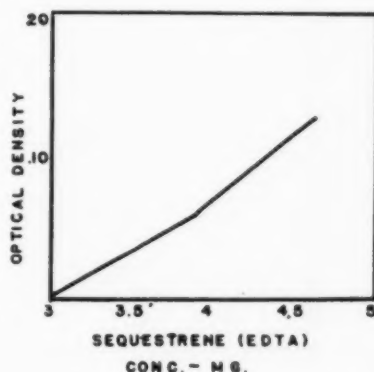
Mg. "Sequestrene" as the sodium salt) in 96 ml. original test solution.....	0	.75	3.	6.
% Transmittance of the treated, colored test solutions	100	90	64	41
Measurements at 508 mu in one cm cells				

prepared. Calibration test solutions were prepared containing one gram of the 20 percent soap product in 96 ml distilled water. Four solutions were prepared. One, a blank without EDTA, the others containing, respectively, .75 mg. three mg., and six mg. EDTA (added as the sodium salt). To each test solution, four ml calcium acetate solution was added to precipitate the soap. The solutions were then treated as described under analytical procedure. The transmittances on the colored triethanolamine coconut fatty acid soap test solutions (shown in Table V) closely correspond to transmittance on similar treated test solutions containing EDTA and potassium coconut fatty acid soap (Figure 2).

Titrimetric Method for the Determination of Salts of EDTA in Soaps

FOLLOWING is a brief description of a published titrimetric method for the determination of EDTA in soaps. A titrimetric method for determining ethylenediamine tetraacetic

Figure 3. Typical differential calibration curve for nickel dithiocoxalate as measure of "Sequestrene AA" (EDTA) concentration in 1.0 gram samples of potassium coconut fatty acid soap (20%) in 96 ml. of original test solution. Measurements at 508 mu in one cm cells.



acid is described by Kerkow (13). This method is the reverse of that of Biedermann and Schwarzenbach for titrating alkaline earth metals in a solution buffered to pH 10, with ethylenediamine tetraacetic acid, in the presence of "Erichrome Black T" as indicator. To a solution containing about 0.0025 mole of the compound in 25 ml water, add 50 ml of the ammonia solution for buffering and one ml of indicator solutions. Titrate with molar magnesium chloride or magnesium nitrate to the endpoint (red through violet). In the presence of soap the solution is first acidified and the fatty acids extracted with ether.

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SOAP and SANITARY CHEMICALS

Closet Fumigants

(From Page 141)

or strong air circulation to saturate a closet with its vapors, but, since even this concentration produces no mortality of either clothes moth larvae or carpet beetle larvae in 24 hours, its use seems unwarranted.

Discussion and Conclusions

PARADICHLOROBENZENE is effective as a space fumigant for use in clothes closets if used correctly. Correct usage involves the production of higher vapor concentrations and their retention for adequate periods. The exposure required for effective control of garment pests is dependent upon the vapor concentration developed in the closet. It was demonstrated in the standard fumigation tests that the vapors are not very toxic, especially to carpet beetle larvae, 24 hours' exposure to air saturated with the vapors being required to kill all of the insects. Thus in closet fumigation best results are obtained when vapor saturation can be effected quickly and maintained for at least 24 hours. Low vapor concentrations, such as might be obtained from a compressed block of PDB suspended in a closet that is in daily use, are essentially ineffective.

The production of high vapor concentrations is a slow process when PDB crystals are merely placed in the closet. Several factors, including temperature, position of the crystals, and surface area of crystals exposed, are concerned. Every possible means should be taken to overcome the low vapor pressure of the compound. The closet should be warm and the crystals spread out as much as possible on the top shelf of the closet or suspended in a number of cheesecloth bags from the clothes rod. Not less than one pound of crystals per 100 cubic feet of space should be used, and more is preferred. The closet should be sealed as tightly as possible and should remain closed for at least one week for best results. The use of a heat-vaporizer unit (large size), a vacuum cleaner, or a fan in the closet is highly

recommended for producing a high vapor concentration rapidly and reducing the required exposure. Vacuum cleaners of the type that force warm air through a container of crystals are particularly effective and will give 100 percent insect mortality in 24 hours.

So many variables enter into household closet fumigation that it is difficult to develop testing methods that will cover all situations. Room temperature, humidity, general closet construction, the wall surface, amount of leakage, and the amount of clothing present, are some of the factors that undoubtedly affect the results of fumigation. Some criticism may therefore be directed toward the tests employed here. Certainly there is room for further investigation and the variables not considered in these tests should be recognized. However, it is felt that the present findings are generally applicable and that the recommended dosages and exposures may be considered as the minimum required for 100 percent mortality of clothes moths and carpet beetles. The closet was more tightly constructed than the average and the insects were fully exposed to the vapors. It is true that the insects had been reared on a highly nutritious diet and might therefore be more resistant to the vapors than those feeding entirely on wool. Also, after each exposure the insects were removed to fresh food in the open air, a situation not likely to occur normally unless the closet was rapidly aerated after fumigation. However, such practices were necessary to carry out the tests satisfactorily, and these factors would more than likely be offset by the other features of tight closet closing and open exposure of the insects.

No attempt was made to determine the effect of the vapors on oviposition, the relative susceptibilities of other stages of the insects, or repellency. Although oviposition possibly would be reduced if adult insects were exposed to the toxic vapors, it is unlikely that it would be seriously affected in adults that emerged from larvae that were exposed. The relative susceptibilities of the various stages of the insects to the vapor is a matter of some concern, but the dosage required

to kill the larvae is of prime importance. The larval stage is the destructive one, and with fumigants the larvae are generally only less difficult to kill than the pupae. The repellencies of PDB and naphthalene have been studied by several investigators. Bottimer (6), Billings (7), and Abbot and Billings (8) have shown that neither compound is effective as a repellent against clothes moths. Furthermore, as pointed out by Abbot and Billings (8), the Food and Drug Administration of the U. S. Department of Agriculture has issued notices to the trade that PDB (1931) and naphthalene (1934) are ineffective as repellents for clothes moth adults and larvae and that the sale of these products under representation that they will repel moths is a violation of the Federal Insecticide Act. This places the entire onus on the killing powers of the compounds and the present investigation has shown that in closets this is only satisfactory when certain conditions are met. It seems only fair that the consumer should be made aware of these conditions in order to obtain satisfactory insect control.

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SOAP and SANITARY CHEMICALS

News

Klarmann in New Post

Dr. Emil G. Klarmann has been appointed vice-president in charge of technical services, it was announced re-



DR. E. G. KLARMANN

cently by Edward Plaut, president, Lehn & Fink Products Corp., New York. Prior to his new appointment, Dr. Klarmann had been chief chemist and vice-president for Lehn & Fink Products Corp. including the Lehn & Fink division, Tussy and Dorothy Gray, for more than 25 years. He has moved his office from the plant at Bloomfield, N. J. to the firm's headquarters at 445 Park Ave., New York.

Dan-Dee Benefit Plan

Dan-Dee Wax Corp. of Brooklyn recently announced new employee benefits whereby factory and office employees, as well as salesmen, with over four months service will qualify for life and accident insurance policies. Life insurance policies are for \$1,000. The accident policy provides \$6 per day for hospitalization, \$60 per accident for medical expenses and \$150 for surgical benefits.

Twyman Visits U. S.

Edwin B. Twyman, managing director of John Powell & Cia., Buenos Aires, spent ten days in New York last month at the offices of the parent company, John Powell & Co. He returned to the Argentine on August 1.

Mr. Twyman is also president of John Powell S.A. of Tauquara, Brazil. He has been associated with Powell for the past twenty years, the latest thirteen of which he has been in charge of South American operations for the company. The Powell business was purchased recently by the Mathieson Chemical Corp. and is now a wholly owned subsidiary of that company.

Irving B. Feinson Dies

Irving B. Feinson, 55, president of American Dispenser Co., New York, died recently. He was the father of Burton L. Feinson, general manager, and the brother of the late Mac B. Feinson, founder of the company. Mr. Feinson was eastern regional manager of the Nik-O-Lok Co. of Indiana, for more than 30 years.

Represents Hollingshead

R. G. Brandes Co., Houston, has recently been appointed to represent R. M. Hollingshead Corp., Camden, N. J., on the sale of bulk sizes of aviation chemicals to the southwest aviation industries in the Texas-Oklahoma area.

Carnauba Replacements

The colloiddally active properties of natural carnauba wax are reproduced in synthetic materials for use in formulation of polishing waxes. Availability in pilot plant quantities of these new replacement waxes was announced recently by Leon M. Prince, Jr., president of Emulsion Chemical Co., Staten Island, N. Y., who hopes to reach an annual production capacity of one million pounds within the next two months. Specific waxes, designated 645 and 415, are available for water emulsion type floor waxes and 640 and 641 for paste polishes. The new products are said to be compatible with natural and synthetic waxes as well as gums and resins used in such formulations, to be light in color and to possess the hardness and conchoidal fracture of carnauba. They are priced

lower than carnauba wax. Further technical data are available from the manufacturer.

Coughlan Appoints Wulf V-P

Appointment of Charles H. Wulf to the position of vice-president and general manager was announced



C. H. WULF

recently by Gerald N. Coughlan, president of G. N. Coughlan Co., West Orange, N. J. The firm produces the "Easy-Aid" line of household chemicals. Mr. Wulf joined the Coughlan organization early in 1946 as sales service manager, and, since then, has held the posts of sales promotion manager and advertising manager. His new responsibilities include the supervision of sales and advertising.

Johnson to Sponsor Show

A sanitation show will be conducted by George T. Johnson Co., Medford, Mass., sanitary supply jobber, on Sept. 22-23, in the John Hancock office building, Boston, it was announced recently by W. James Reider, president of the company. Between 40 and 50 manufacturers of nationally advertised and distributed brands of sanitary supplies sold through jobbers will exhibit at the show.

CSMA Aerosol Festival

An aerosol festival will be held in conjunction with its 40th annual meeting at the Mayflower Hotel, Washington, D. C., Dec. 7-8, the Chemical Specialties Manufacturers Association announced recently. Chair-

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deodorants, disinfectants,
etc. need effective coverage
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man of the Aerosol Festival Committee is Ira P. MacNair, president of Mac Nair-Dorland Co., New York. Aerosol package competition and awards will be divided into seven classes as follows: insecticides; moth products; room deodorants; lacquers, paints, enamels; waxes, polishes, glass cleaner; personal products; miscellaneous. A top award for "best in the show" will also be made. Entries close Oct. 15 and should be sent in as soon as possible after Sept. 15. There is no entry fee or other charge to entrants. All entries will be made in the name of the brand owner or marketer. Only one entry may be made in any one class, but entries may be made in as many classes as desired.

Hoffman Holds Outing

The annual outing of the salesmen of F. W. Hoffman & Co., Philadelphia, was held July 17, at Llanerch Country Club. Guests included suppliers, customers and friends of the organization. Twenty-two golfers vied for low gross, won by Robert Dutney, Philadelphia manager of S. C. Johnson & Son; second low gross, which went to Robert Connell of Piatt & Smillie Chemicals, Inc.; second low gross, class a, a tie between Martin J. Peters of Moore Brothers Co., and Frank J. Reilly, editor of *Soap and Sanitary Chemicals* magazine; second low gross, class b, Robert Peters of S. C. Johnson & Son, New York; second low gross, class c, John Gorman, Pacific Coast Borax Co., and high gross, Tom Ruth, F. W. Hoffman & Co.

Prizes donated by the Hoffman company, suppliers and guests were awarded by drawings during the dinner, which was attended by 55. Guests included Frank Stiefel of Curtis Publishing Co., said to be one of Hoffman's first customers; Harold Jackson of Franklin Institute; Dal Smith of Sun Oil Co.; Walter Maguire, Westinghouse Electric & Manufacturing Co.; Percy Petersen, Philadelphia Electric Co.; Elwood Deering, Sears, Roebuck & Co.; Jack Saling, Daniel J. Keating Co.; Franz Model, Larry Weikel, Kenneth Leh and James Fogerty of Firestone Tire and Rubber Co.; Leo J. Kelly, executive vice-president of Na-



Twenty-five salesmen and their families were guests at the quarterly sales school held recently by Conco Chemical Co. of Dallas. Three full days of sales training, written examinations, and custodial training were part of the agenda for the salesmen. The company also gave a dinner dance and picnic for its employees and their families.

tional Sanitary Supply Assn.; Jay Zucker of State Chemical Co., Cleveland, Frank J. Reilly, *Soap and Sanitary Chemicals*, and John MacAllister, president of Llanerch.

Harold J. Kelly, sales manager of F. W. Hoffman & Co., was chairman for the affair, and Frank Hoffman was toastmaster and master of ceremonies, leading the singing and performing on his harmonica.

New Sanitary Supply Firm

A new firm, known as Pinnacle Products, Inc., has recently been formed, with offices and warehouses at Colley Ave. and 42nd St., Norfolk, Va., according to Clinton L. Ward, Sr., president of the firm. The company, capitalized at \$20,000, handles janitor's supplies, sanitation equipment, and chemicals.

Argueso Moves Offices

A new building designed to provide modern facilities for its administrative and clerical staff was occupied recently by M. Argueso & Co., at 441 Waverly Ave., Mamaroneck, N. Y. The firm, which imports waxes and vegetable fibers, was formerly located at 106 Wall St., New York. The new building is directly opposite the refinery of its Mamaroneck Chemical Division, which produces "Cerita"

waxes. Carnauba, ouricury and candleilla waxes are refined there, too. In addition, Argueso is a supplier of ceresin, ozokerite, palm waxes and casting waxes.

Pressurized Pkg. Manual

A new manual for venders and fillers of pressurized packages has recently been announced by the Chemical Specialties Manufacturers Association. Copies may be obtained by writing to the Association at 110 East 42nd St., New York.

Sohio Sells Can Plant

National Can Corp., New York, recently announced it has purchased the complete can manufacturing facilities of Standard Oil Co. of Ohio, Cleveland, which comprises can manufacturing and lithographing equipment. Robert S. Solinsky, president of National Can, stated that the can manufacturing equipment now operated at one of the Sohio plants in Cleveland will be used in the new Cleveland plant of National Can and will supply the can requirements of Standard Oil and its customers. Transfer of the equipment will take several months, according to Mr. Solinsky, during which time Standard Oil will continue to operate these facilities. Other operations of Sohio will not be affected.



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Arthur O. Hoeller Dies

Arthur O. Hoeller, 43, general manager of James Varley and Sons, Inc., St. Louis, died July 12. His death



ARTHUR O. HOELLER

was attributed to heart trouble. He had undergone an operation and treatment for another ailment earlier this year. Actively associated with the firm for 16 years, Mr. Hoeller had served in most recent years in the capacity of general manager of the entire St. Louis operation. He is survived by his wife, Mrs. Marjorie Hoeller, four children and his mother, Mrs. Edward Hoeller.

New Fly Spray Concentrate

A new fly spray, called "Resikill," can now be obtained in concentrate form, Residex Corp., Newark, announced recently. The concentrate is diluted at the rate of one to 10 with base oil to form a ready-to-use spray. "Resikill" has been formulated for use in microsol machines to provide pest control operators with a fly spray with quick knock-down ability. The company said that when used as directed, "Resikill" is approved for use in food processing areas. It is also claimed to be effective against D.D.T. resistant and lindane resistant flies.

Monsanto Adds to Staff

Appointments of Dr. W. F. Hamner, Dr. K. M. Taylor, Dr. H. M. Walker and W. J. Yates as group leaders in the research department of its Texas division, Texas City, have been announced by Dr. H. E. Morris, research director, Monsanto Chem-

ical Co., St. Louis. At the same time, the company announced that it has named Lester P. Gamble as administrative assistant to the production manager in its merchandising division for Detergents, Inc., Columbus, O., a wholly-owned Monsanto subsidiary. Mr. Gamble joined Monsanto in October, 1924 as an assistant laboratory technician at the Krummrich plant at Monsanto, Ill. Subsequently he served as an assistant to the chief chemist, technical assistant, assistant supervisor and supervisor. He became a personnel manager at the Krummrich plant in 1949.

Pest Control Course

A course designed primarily for pest control operators will be given this fall at City College of New York, Philip W. Friedman, secretary of Professional Exterminators Assn., announced recently. The course, known as "Biology of Pest Control," is limited to only 20 members of the Association.

CSMA 40th Anniversary

Some of the special features for the 40th annual meeting of the Chemical Specialties Manufacturers Assn., to be held in Washington, D. C. on Dec. 6, 7, 8, at the Mayflower Hotel, were announced recently by H. W. Hamilton, secretary. Plans for the meeting include: A celebration honoring the charter members present at the meeting; an achievement award; a past presidents' meeting and party; the second annual aerosol festival; and a banquet at which women will be welcome for the first time. In addition there will be two luncheons, each with special features and open house evening will be held Dec. 7.

Also, highlighting divisional meeting programs will be papers and reports on new aerosol containers; automotive hydraulic fluid survey; modern sanitizers; forty years of household and industrial insecticides; manufacture, use and testing of synthetics and mixtures; and the final report on the use of wax on vinyl floors. The association will elect and install officers and division administrative committees for 1954 at the meeting.

New Soap Dispenser

A new non-clogging, powdered-soap dispenser has recently been introduced by DeWitt Co., Chicago.



The soapserver has a hinged lid which eliminates the need for locks. Loading is through large perforations which prevent pilferage of soap. The soap is dispensed in a circular pattern on the users hand. The spiral spring agitator prevents packing of contents. A special dispensing mechanism, machined to close tolerances, eliminates the possibility of soap leakage. The dispensing mechanism is protected from water by splashing or condensation thereby eliminating caking and clogging.

Penick Adopts Repack Mark

S. B. Penick & Co., New York, and its affiliate, New York Quinine & Chemical Works, recently introduced a new system to help its customers identify the contents of corrugated cartons containing assorted merchandise. On the outside of each corrugated container appears a bright red label reading "Repack: Contains assorted merchandise, check contents carefully." Inside is a packing slip listing the items in the container.

Sweep with Chlorophyll

A new emulsified sweeping compound with chlorophyll, called "Dust-A-Sheen," has recently been introduced by Federal Varnish Division, Chicago. The manufacturer says that the new product is efficient under all conditions and safe on any type of floors—there are no harmful ingredients in it to affect asphalt, rubber and similar flooring. "Dust-A-Sheen" is non-inflammable.

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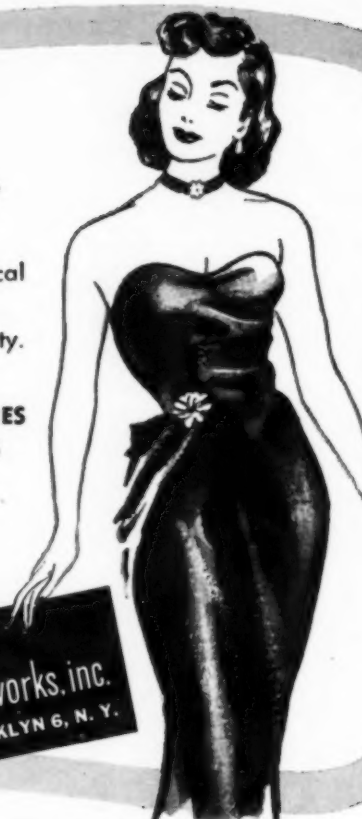
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N. S. S. A. Plans N. Y. Meeting

LOCAL dinner meetings of members of the National Sanitary Supply Association were held last month to discuss plans for the two-day regional meeting of the association to be held Nov. 18 and 19 at the Park-Sheraton Hotel, New York. Fifty-one persons, including Mrs. Frank Hoffman, whose husband is head of F. W. Hoffman & Co., Philadelphia, and Mrs. A. Clancy of Clan Mfg. Co., Camden, N. J., attended the Philadelphia meeting, which was held July 22 at the Penn-Sheraton Hotel. Charles Solly of Harley Soap Co., Philadelphia, and a director of N.S.S.A. was chairman for the meeting. Other N.S.S.A. officials present were W. James Reider of George T. Johnson Co., Medford, Mass., eastern regional vice-president of N.S.S.A.; Shim Lehrman, Lehrman & Sons, Harrisburg, Pa., N.S.S.A. director, and Leo J. Kelly, executive vice-president of the National Sanitary Supply Assn.

Frank Hoffman of the Philadelphia sanitary supply firm bearing his name recalled some of the early days of the National Sanitary Supply Assn. Mr. Solly discussed the functions and

value of the association, which he explained provided an excellent opportunity to bring manufacturers and distributors together to discuss and solve their common problems. Mr. Kelly spoke on the coming regional meeting of the N.S.S.A. in New York this fall, and told of the success of these meetings in other sections of the U. S. He also reported on receiving an award of merit, presented to the National Sanitary Supply Assn. by the American Trade Executives Association. The possibility of holding future meetings of N.S.S.A. in the Philadelphia area was discussed at the meeting, and considerable support for the idea was indicated.

The New York area dinner meeting, held July 23, at the Washington Square Inn, New York City, was attended by 25 persons. Martin J. Peters of Moore Brothers Co., New York, and former N.S.S.A. president, was chairman for the meeting, which was presided over by W. James Reider. Leo J. Kelly also attended the meeting, at which plans for the two-day regional meeting in November were formulated. Suggestions as to program sub-

jects and speakers were discussed, and committees appointed.

The two-day meeting, to be held Nov. 18-19, at the Park-Sheraton Hotel, New York, will convene with a luncheon on Nov. 18. Registration will begin at 10:00 a.m. A luncheon speaker will open the meeting program which calls for talks on various phases of selling, buying, using and promoting sanitary supplies. The afternoon session recesses at 4:30 p.m. A reception and dinner, dance and show beginning at 6:30 complete the first day's activities. On Thursday, Nov. 19, the meeting reconvenes at 9:30 a.m. with a program of speakers running through until 12:00 noon, when there will be a second group luncheon and speaker. The meeting adjourns at 2:00 p.m. The meeting will be open to all manufacturers and distributors of sanitary supplies, whether or not they are members of the National Sanitary Supply Association.

An executive committee in charge of the meeting was appointed and is composed of W. James Reider, chairman; Martin J. Peters; Jacob Kahn of Windsor Wax Co., Hoboken, N. J.; Lester Brown of I. Irving Brown, New York; Charles Solly, Shim Lehrman and Emanuel Gantz of Em-

Photo taken during N.S.S.A. dinner meeting in Philadelphia.



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pire Brushes, Inc., Port Chester, N. Y. The program committee is composed of Frank J. Reilly, editor of *Soap and Sanitary Chemicals* magazine; Edward Grant of S. C. Johnson & Sons, Inc., James V. Cawley, editor of *Modern Sanitation* magazine; Martin J. Peters; Samuel Newman of Creco Co., Long Island City, N. Y.; Burton L. Feinson of American Dispenser Co., New York, and Herman Schwartz of Uncle Sam Chemical Co., New York.

Named to the entertainment committee were Samuel Newman of Creco, chairman; Irving Behr of Behr Paper Co., Baltimore; Jack Hirsch, Formula Floor Products, Newark, N. J.; Philip Janvey of I. Janvey & Sons, Hempstead, N. Y.; Stanley Brigham and Milton Greenberg, United Metal Box Co., Brooklyn, N. Y. Other committees named and their members include: Registration, Jack Gantz of Empire Brushes, Inc., Port Chester, N. Y. and Jacob Kahn of Windsor Wax; Liaison, W. James Reider, Richard Williams of Geo. B. Robbins Disinfectant Co., Cambridge, Mass., and Paul N. Caplan, Merit Paper & Chemical Corp., Boston; and Membership, Maxwell Lind, Atlas Floor Products Co., New York, Sam Levine, Selco Supplies, Inc., Poughkeepsie, N. Y., Victor Goeppert, I. Janvey; Edward Hassler, Sterwin Chemicals, Inc., New York.

Speakers at the New York meeting included Charles Solly, who reported on the success of the Philadelphia dinner meeting, and Leo J. Kelly, executive vice-president of N.S.S.A., who told of the award received by the N.S.S.A. from the American Trade Executives Association.

Continental Appoints Two

Continental Can Co., New York, recently announced the appointment of James I. Donahue as sales manager, general line (non-processed food cans) for its Eastern metal division, and Leonard G. Cannella as sales manager of the company's New York sales district. Mr. Donahue joined the company in 1923 and has served in various capacities throughout the sales offices in Baltimore and New York. Mr. Cannella came to Continental in 1934, and has served in



J. I. DONAHUE

a wide variety of sales positions, including assistant to district sales man-

USDA Post to Knippling

Appointment of Dr. Edward F. Knippling as assistant chief in charge of the Bureau of Entomology and Plant Quarantine, was announced recently by the U. S. Department of Agriculture. Mr. Knippling replaces Dr. F. C. Bishopp, who left the Bureau after 49 years of service as scientist, division leader, and assistant chief. Dr. Knippling joined the bureau in 1930. Since 1946 he has been leader in the Bureau's division of insects affecting man and animals.

New Firm Makes Hydrazine

Formation of Matholin Corp. to manufacture, sell, and conduct research on hydrazine was announced recently by John M. Olin, president of Olin Industries, Inc., and Thomas S. Nichols, president of Mathieson Chemical Corp., Baltimore, Md. Mr. Olin is president of the new company, whose board of directors consists of four representatives from Mathieson and four from Olin. Large scale production of hydrazine was recently started at a new plant at Lake Charles, La.

Hydrazine derivatives, such as substituted hydrazines, hydrazones, hydrazides, and semi-carbazides are currently being used as insecticides, fungicides, antioxidants and textile processing agents. Maleic hydrazide is active as a growth retardant for grass and has been found to reduce the num-



L. G. CANNELLA

ber of mowings required per season from 19 to 2 and to exert selective control of crab grass, Johnson grass and witch grass in lawns. One hydrazine derivative is said to kill mites without poisoning the birds that feed on the dead mites. Hydrazine is also said to show promise as a starting material for synthetic detergents, wrinkle-resistant coatings for textiles and in other industrial uses.

New England Moves

New England Chemical Supply Corp., manufacturers and distributors of chemical specialties, recently announced the moving of its offices and plant from 5 South Commercial St, Manchester, N. H. to Merrimack, N. H. The new plant is a 40,000 square foot structure, located on 12 acres of land, adjacent to railroad sidings along the Souhegan River where the firm's bulk storage tank facilities are located.

Label Consultant Service

A new firm of consultants, known as Decorating Process, Inc., has announced recently the opening of offices at Regester and Aliceanna Sts., Baltimore. George Fuld, president of the new firm and son of Melvin Fuld of Fuld Brothers, Inc., Baltimore, said that D. P. I. offers a complete consulting service in the expanded use of low cost cold color decorating processes for bottles, cans and drums.

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Diversey Net Earnings Up

Net earnings for the quarter ended June 30 increased as compared with the same period last year, Diversey Corp., Chicago, announced recently. Net profit after taxes for the quarter in 1953 was reported as \$162,526, compared with \$92,404 in 1952, and \$127,546 in 1951. Earnings per share were 70 cents in 1953, 42 cents in 1952 and 58 cents in 1951. The number of common shares reported for the quarter was 231,074 in 1953, 220,000 in 1952, and 220,000 in 1951.

BEPQ Advances Herrell

Henry G. Herrell has recently been named to the post of assistant chief in charge of administration of the Bureau of Entomology and Plant Quarantine, it was announced recently by the U. S. Department of Agriculture, Washington, D. C. Mr. Herrell succeeds Ralph A. Sheals, who has retired after 35 years in government posts. For the last three and one-half years, Mr. Sheals had been assistant bureau chief. Mr. Herrell has served with Mr. Sheals as the bureau's deputy assistant administrative chief since 1951. He is responsible for the direction of the bureau's administrative functions.

Roger Warwick Agency

Appointment of J. G. Roger Chemical Co., Baltimore, as sales agent for its industrial chemicals was announced recently by Warwick Chemical Co., a division of Sun Chemical Corp., Long Island City, N. Y. The Roger organization, of which John Eisenhart is president, is handling Warwick's complete line of surfactants and organic sequestering agents exclusively in Maryland, Delaware, District of Columbia, West Virginia and Virginia.

Wichita Names Schneider

Designation of Peter Schneider as its Kansas representative was announced recently by Wichita Brush & Chemical Co., Wichita, Kans., manufacturers and distributors of building cleaning materials. Mr. Schneider has been with the company about six months. He was formerly with Hill

Packing Co. in Topeka where he headed the machine bookkeeping department. He also helped the Hill Co. establish the department, after having worked for Hall Lithographing Co. of Topeka. Wichita Brush and Chemical Co. recently celebrated its 25th anniversary.

L & F Appoint Erickson

Lehn & Fink Products Corp., New York, recently announced the appointment of Jack R. Erickson as regional sales supervisor on the West Coast. Mr. Erickson's headquarters are at 6132 South Mansfield Ave., Los Angeles. For the past 18 months, he has represented the firm in the Rocky Mountain area and the western states. Previously, he had been with Personal Products, Purepac and Lan-teen.

Vosburgh in New Post

Richard V. Vosburgh has been appointed vice-president of IMCO Container Corp., Kansas City, Mo., W. K. Archer, president of the firm, announced recently. IMCO manufactures plastic jars and bottles, and polyethylene jars with double wall construction. Mr. Vosburgh, formerly sales manager for the firm, has been associated with IMCO over the past four years.

A. S. Boyer Dies

Alden Scott Boyer, 66, founder and president of Boyer Chemical Laboratory Co., Chicago, died recently in the office of his plant at 2218 S. Michigan Ave. The company produces insecticides, cosmetics and sanitation chemicals.

Pennsalt Appoints Baldwin

Designation of James G. Baldwin as district sales manager in charge of the Los Angeles office of Pennsylvania Salt Manufacturing Co., Philadelphia, was announced recently by L. M. Shanaman, heavy chemicals sales manager. Mr. Baldwin is in charge of heavy chemicals in the California area. Since starting with Pennsalt in 1948, he has handled a variety of appointments in both technical and sales work.

CU Views Silver Cleaners

The new dip-type silver and other metal cleaners are effective, but lack some virtues found in other types, according to findings of Consumers Union published recently in *Consumer Reports*. Consumers' tests showed that it is necessary to supplement dip-type cleaning with the conventional type of polishing, at least occasionally, in order to remove "dull deposit" or "white film." A second undesirable characteristic of the dip products, according to CU, is their unpleasant odor, which becomes worse as the solution is re-used.

Like the dips, the electrolytic methods clean without polishing; like them, there is deposited on the silverware a fine, white film which builds up and has to be removed occasionally with a silver polish or polishing cloth. Silver polishing cloths—cloths impregnated with a mild abrasive—were found, in CU's tests, to be quite effective for cleaning and polishing silver which was relatively lightly tarnished; silver polishing cloths were relatively ineffective on heavily tarnished surfaces. A silver polishing paper product was found much more effective on heavy tarnish, though its abrasive action removed more silver than was removed by polishing cloths. CU found that the creams were found to be the most effective tarnish removers and polishes, and may outlive dip-type products.

Moves Chicago Offices

Innis, Speiden & Co., New York recently announced the transfer of its Chicago branch offices from 722 West Hubbard St. to Kelmer River Terminal Warehouses, 536 West Cermak Rd.

Dietrich Joins Continental

Appointment of Robert I. Dietrich as assistant to the sales manager of general line cans in its central metal division, was announced recently by Wilson B. Larkin, division manager of sales, Continental Can Co., New York. Before joining Continental, Mr. Dietrich was district sales manager for the midwest area of Jones & Laughlin Steel Corporation's steel paint division.

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New Wyandotte Antibac

"Wyandotte Antibac," a chlorine germicide that is said to combine the safety and other advantages of the organic type of germicide with the fast, lethal action of the hypochlorites, has recently been introduced nationally by Wyandotte Chemicals Corp., Wyandotte, Mich. Swift germ killing action of this new, acidic chlorine product is said to make it suitable for use wherever foods and beverages are served, processed or manufactured. It is marketed in four-pound glass containers with applied color labels manufactured by Owens-Illinois Glass Co., Toledo.

Sterling Acquires Magic

Purchase of the assets, goodwill and business of Magic Manufacturing Co. of Charleston, W. Va., by Sterling Drug Inc., New York, was announced recently by Dr. J. Mark Hiebert, executive vice-president of Sterling. Management of the newly acquired business is being conducted by John Puhl Products Co., Chicago, a Sterling subsidiary engaged in the manufacture and distribution of household products, including "Bo-Peep Ammonia," "Little Boy Bluing" and "Fleecy White Bleach."

With the acquisition, the firm acquires "Magic Bleaching Solution," which continues to be sold in its present markets by the Puhl Company. Stanley H. Kord, general manager of Puhl, becomes president of Magic. Wirt E. Pauley and Everett H. Pauley, principal stockholders in the Magic concern which was organized in 1938, have retired from the business.

New Rug Spot Remover

Rug-Aid Products, Inc., has been organized at Hollis, N. Y., for manufacture of a new rug spot cleaning kit to be marketed under the brand name of "Rug-Aid Kit." The product is made in four formulas, designed for different types of stains. It is said to be able to remove common stains from wool, rayon and cotton carpets and rugs. Later, other products will be added to the line, it was announced. Distribution in the metropolitan New York area will be han-

dled by Eskay Carpet Corp., Brooklyn, N. Y.

Bulletin on Solvents

A new, revised technical bulletin No. 214 which describes the properties of the current series of "Velsicol AR-Solvents," as well as their applications as insecticides and herbicides, has recently been issued by Velsicol Corp., Chicago. This solvent series includes the "Velsicols AR-40," "AR-50G," "AR-50," "AR-55," "AR-55S," "AR-60" and "GVO-77." These solvents are composed predominantly of aromatic hydrocarbon oils which consist of methylated naphthalenes and are referred to as methylated naphthalene solvents, alkylated naphthalene solvents, aromatic petroleum derivative solvents or aromatic hydrocarbon solvents.

The bulletin also gives the specific properties of these solvents and the formulations in which they are used. A list of the "Velsicol AR-Solvents" suitable for use in several of the Federal specifications covering these insecticide formulations is included. Copies are available on request to the company at 330 East Grand Ave., Chicago.

Becco Has New Process

Mercuric acetate, which is an intermediate in the manufacture of some insecticides, disinfectants and fungicides can now be made by a new and direct process starting with metallic mercury and yielding nearly theoretical amounts of mercuric acetate in a very pure form according to a recent announcement by Buffalo Electric Chemical Co., Buffalo, N. Y. Patents for the new process, which should be about one third less expensive than processes currently used, are pending.

Names Texize Brokers

Appointment of Damon Sales Co., Tampa, Fla. as its broker for the Central and West Coast Florida areas, was announced recently by Texize Chemicals, Inc., Greenville, S. C., producers of liquid household cleaning products.

Gair Post to Brewster

A. J. Brewster, general sales manager of the container division, has been appointed acting division manager of its Teterboro Corrugated Box division, William T. May, Jr., vice-president in charge of container operations at Robert Gair Co., New York, announced recently. He replaces Floyd C. Costello who is taking an extended leave of absence.

New Silver Polish

New packages of "Crest" containing five small spongettes which have been impregnated with silver polish, have recently been introduced by Crest Laboratories, Concord, N. H. The spongette is moistened with water and rubbed against the silver, which is then rinsed in hot water. A plastic holder comes with each package.

Eston Names Field Men

Appointment of two new field representatives was announced recently by Eston Chemicals division of American Potash & Chemical Corp., New York. Truman E. Laningham, former entomologist at Shell Agricultural Laboratory, Modesto, Calif., is employed in Eston's basic chemical department at Modesto. He was graduated from the University of California in 1940 with a Bachelor of Science degree. Jack Triche is in charge of the refrigerants distribution branch at St. Louis, serving Missouri, Kansas and Southern Illinois.

Canco Ups Odiorne

Appointment of Raymond J. Odiorne as manager of its new can-making plant at Lemoyne, Pa., was announced recently by American Can Co., New York. The new plant, which is scheduled to begin operations later this year, will employ 450 to 475 persons. Mr. Odiorne started work as a floorman in Canco's Hudson factory at Jersey City, N. J., in July 1930. He spent the next 18 years there, serving successively as assistant foreman, foreman, assistant general foreman, assistant to the plant manager, and general foreman. He has been assistant manager of the company's Baltimore factory for the past two years.

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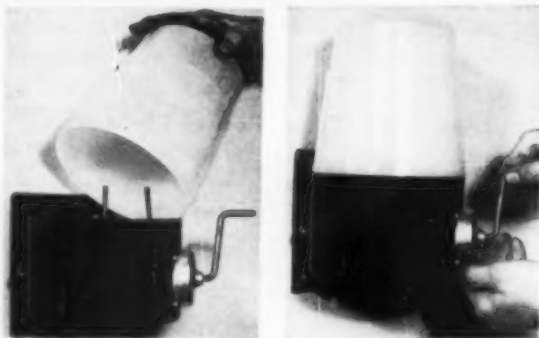
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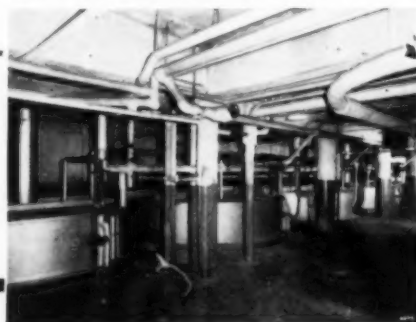
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DDT Resistance in Bed Bugs

RECENT laboratory tests have revealed that insecticide resistance has developed in certain natural populations of bed bugs, the National Pest Control Association, Inc., announced recently. Over the past three years, members of NPA have been reporting occasional difficulty in control of bed bugs with DDT.

J. J. Mooney of Columbus Pest Control, Columbus, O., reported that he had encountered a bed-bug problem in a county infirmary in which he suspected resistance to DDT. The Bureau of Entomology and Plant Quarantine, U. S. Dept. of Agriculture, Washington, D. C., on learning of this, requested Mr. Mooney to collect specimens and ship them to their Orlando laboratory for testing. W. C. McDuffie, in charge of the Orlando Laboratory, reported that these bed bugs were highly resistant to DDT and methoxychlor. Exposures of up to two hours on residues of these materials had no effect on the bed bugs, and continuous exposure for a full week gave only 22 percent kill. A 30-minute exposure on DDT killed the regular colony bugs in 48 hours.

The Columbus strain of bed bugs was very susceptible to lindane. dieldrin and chlordane also gave good results in two-hour exposure tests. NPCA recommends that lindane be used as the alternate insecticide against bed bugs where control can not be effected with DDT. A concentration of one-half percent lindane, either oil solution or water emulsion, may be used safely as a contact and residual treatment for the hiding places in walls, bedsteads and bed springs, and in wooden or metal parts of furniture. If heavy or extensive treatment is required in a room, it should be aired thoroughly before permitting reoccupancy.

The application of lindane to mattresses or furniture upholstery should be kept on a very restricted basis. Such things should not be given an over-all treatment with lindane in any concentrations higher than 0.1 per cent. In any application of lindane

to mattresses or furniture upholstery, adequate time for the oil to dry should be insured before permitting re-use. The use of chlordane or dieldrin in bed-bug control is not recommended. Pyrethrum-synergist combinations containing 0.2 percent pyrethrins with one percent of one of the synergists can be used as direct contact treatments to control bed bugs. This requires very thorough treatment and has little residual value.

Wax Meeting Sept. 3

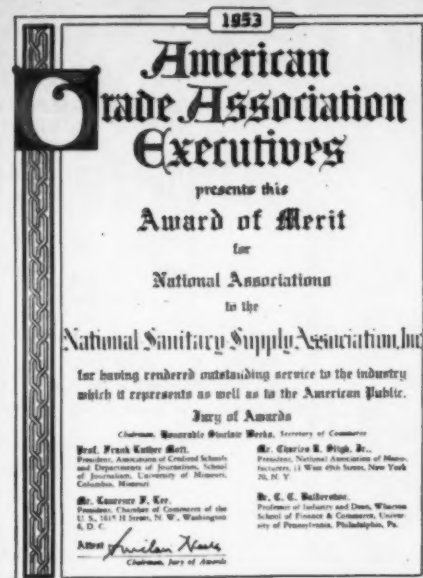
A meeting of floor wax manufacturers will be held on September 3 at the Hotel Roosevelt, New York, at 10:30 A.M. under the auspices of the Chemical Specialties Manufacturers Association. The meeting is open to all manufacturers of wax polishes and is for the purpose of discussing trade practice rules prior to a meeting for similar discussions with the Federal Trade Commission on September 15 at Washington, D. C. Representatives of wax manufacturers who plan to attend the New York meeting should notify the office of CSMA prior to that date at 110 East 42nd St., New York 17, N. Y., according to an announcement by H. W. Hamilton, CSMA secretary.

Koppers Plant Anniversary

More than 1,500 employees of the Kotuta, Pa. plant of Koppers Co., Pittsburgh, were the company's guests recently at a buffet lunch in celebration of the 10th anniversary of production of styrene at the chemical installation.

N.S.S.A. Work Cited

The National Sanitary Supply Association recently received an award of merit citation from the American Trade Association Executives "for the association's (N.S.S.A.'s) well planned services in trade promotion, merchandising problems, government and public relations, training of personnel and allied activities." The N.S.S.A. was one of six out of 1400 trade associations in the U. S. receiving the award.



Plaque received by N.S.S.A. from A.T.A.E.

Leo J. Kelly, executive vice-president of N.S.S.A., accepted the award, which was in the form of a plaque, shown in an accompanying photograph, on behalf of the N.S.S.A. during the recent annual convention of American Trade Association Executives at Atlantic City, N. J.

The jury of awards was composed of the Honorable Sinclair Weeks, Secretary of Commerce, as chairman; Prof. Frank Luther Mott, president of the Association of Accredited Schools and Departments of Journalism, University of Missouri; Laurence F. Lee, president of the Chamber of Commerce of the U. S.; Charles R. Sligh, Jr., president of the National Association of Manufacturers and Dr. C. C. Balderston, professor of industry and dean of the Wharton School of Finance of Commerce, University of Pennsylvania.

Special commendation was given to N.S.S.A. for the establishment of its "Institute of Sanitation and Modern Cleaning Methods," which it described as "a successful plan of educating sales representatives in public health problems, sanitation ordinances, and the effectiveness of the industry's products through correspondence courses." These and other educational campaigns were carried out in cooperation with local public health authorities, to spread the gospel of better sanitation in all types of building structures," the citation stated.

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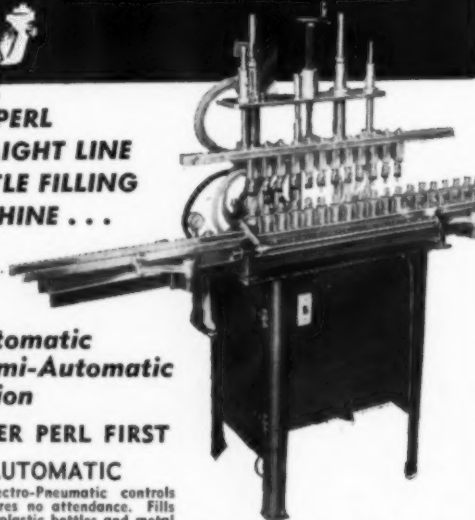
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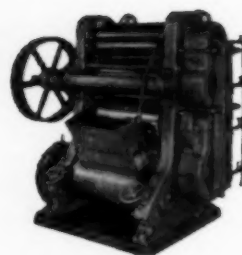
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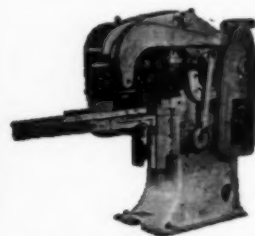
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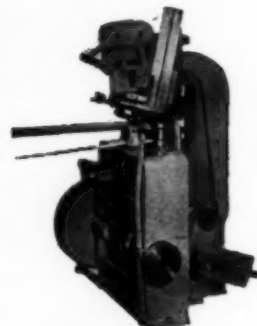
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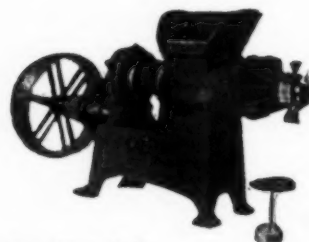
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For Sale: Allbright-Nell 4' x 9' chilling rolls. Blanchard #14 soap powder mill. Lehmann 4-roll W. C. 12" x 36" steel mill. Houchin 8½" x 16" 3-roll and 18" x 30" 4-roll Granite Stone Mills. Kettles and tanks, iron, copper, aluminum and stainless. Dryers vac. & atmos. Jones automatic soap presses. Empire State foot presses. Soap frames. Slabbers and cutting tables, hand & power. Crutchers. Six-knife chipper. Filter presses 12" x 42". Wrapping & sealing machines. Powder, paste & liquid mixers. Rotex sifters. Filling machines, Grinders, Hammer mills. Colloid mills. Three-roll steel mills 8" x 22" to 16" x 40". Portable elec. agitators, pumps, etc. Send for bulletin. We buy your surplus equipment. Stein Equipment Company, 107-8th St., Brooklyn 15, N. Y. STerling 8-1944.

For Sale: Houchin 6" plodder 5 H.P. motor; Houchin 9" x 24" W. C. 3-roll inclined steel mill; Empire State & Houchin foot presses; Filter presses C.I. & Wd. plate and frame 7" to 30"; Horizontal spiral mixers 100 to 2000#, some jacketed; Rotex 40" x 120" single deck and Roball 40" x 120" triple deck screens; Dopp 250 gal. kettle; Standard Knapp #429 gluer and sealer. Misc. fillers, labelers, pulverizers, conveyors, etc. The Machinery & Equipment Corp., 533 West Broadway, New York 12, N. Y. GRamercy 5-6680.

Stainless Steel tanks and kettles. Steel tanks and kettles; Powder mixers; Pulverizers, etc. Perry Equipment Corp., 1410 N. 6th St., Philadelphia 22, Pa.

Dust Absorber chemical for treating dust cloths and dust mops. Contains no oil or solvent; does not stain or smear. Safe to use on asphalt tile or waxed floors. Parlee Corp., 308-310 E. St. Clair, Indianapolis, Ind.

For Sale: Back numbers of *Soap and Sanitary Chemicals* from 1940 thru 1951. Complete 12 years. If interested in all or part of these back issues, communicate with R. B. Webb, 1222 Sheffield St., Pittsburgh 33, Pa.

Are You Posted on SYNTHETIC DETERGENTS and SOAPS & DETERGENTS? see page 36.

For Sale

For Sale: 1—Houchin 10" jumbo plodder; 1—Pneumatic Scale Packaging line complete: 1—Lehmann 12" Plodder; 1—Houchin 14"x36" 5-roll inclined watercooled mill, 30 H.P. motor; 1—Baker 20"x33" 5-roll mill, 55 H.P. motor; 4—Jones automatic soap presses, A, K/, C pin die; 2 Houchin 3 roll granite mills 12x30, 1—4 roll 18x30; 2—Package Machinery Co. model TT and model N soap wrappers; 5—Steel vertical, jacketed soap crutchers, 5,000 lb., 3000 lb., and 1000 lb.; 1—6 knife soap chipper, m.d.; 1—42" x 100" steel flaking roll; Filter presses 12" to 42", powder fillers; dry powder mixers, 12,000 lb., 3000 lb. and smaller sizes; paste and liquid mixers; Rotex screens; Hammer mills; soap frames; Dopp jacketed kettles 100, 350, 600 gallon; Blackmer pumps; tanks; carton gluer-sealers. Ask us to quote on your requirements. Tell us what idle machines or plants you have for sale. Consolidated Products Co., Inc., 15-21 Park Row, New York 38, N. Y. Phone BArcley 7-0600. Inspect our stock at our warehouse, 331-341 Doremus Ave., Newark, N. J.

For Sale: Reprints of "Synthetic Detergents Up-to-Date" II (Newest Revision) now available . . . 44 pages listing over 1000 detergent products by trade name, manufacturer, class, type, formula and uses—price \$1.50. Remittances must accompany order. Available direct from author. John W. McCutcheon, 475 Fifth Avenue, New York 17, N. Y.

Conway in New Post

Appointment of John Conway as assistant sales manager for industrial chemicals of Carbide and Carbon Chemicals Co. division, Union Carbide and Carbon Corp., New York, was announced recently by W. F. Reich, Jr., vice-president. Mr. Conway joined the company in 1935 and was assigned to Carbide's fellowship at Mellon Institute in Pittsburgh. He later served as technical representative in New York, Philadelphia, and Boston offices. From 1942 through 1944 Mr. Conway served with the War Production Board in Washington, D. C. In 1945 he was made a product manager of the fine chemicals division and in 1952 he became assistant manager of this division.

**ELIMINATE
FIRE
HAZARDS**

**USE
SAFEGWAY
FIREPROOF
STORAGE
BINS**

**INSURE SAFE
STORAGE FOR—**

- EXCELSIOR
- SHREDDED PAPER
- SHAVINGS
- RAGS
- PAINTS

and other combustibles

Heavy galvanized iron construction, tubular riveted through-out. Available with legs or casters. UL approved fusible link controls automatic cover closing device to provide protection in event of fire. Indispensable for shipping, receiving, stock-rooms, maintenance depts. and other flammable material storage.

Write today for further information

J. D. Polis **MANUFACTURING CO.**
2916 W. 26th St.
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Available
in 3 sizes



For FILTERING & FILLING

**small plant or
batch lots of**

**PHARMACEUTICALS,
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CHEMICALS,
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**EFS-B
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**PORTABLE
FILLER**



Two Ertel units that make small production efficient. They have all the desirable features of Ertel high production equipment: EFS-B FILTER has single hand wheel for simple trouble-free operation, bronze or stainless circulatory system, accommodates accepted Ertel Asbestos Filter Sheets. PORTABLE FILLER has automatic overflow system, non-drip spouts, bottle size flexibility up to gallons. And, both units can be easily moved from place to place. Write for detailed information on this important equipment... it belongs in your plant.

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COMPLETE LINE OF
Liquid Handling Equipment



STERN

**A GOOD
CAN
NAME
SINCE
1901**

STERN CAN COMPANY, INC.
71 LOCUST ST., BOSTON 25, MASS.




Floor cleaning compounds . . .

To know more about effective floor cleaning products — read "Sanitary Chemicals" — a new 576-page, cloth covered, book — \$8.00 in U.S.A.; \$8.50 elsewhere.

Check with order — Add 3% sales tax if in NYC

MAC NAIR-DORLAND COMPANY
254 West 31st Street New York 1, N. Y.

New Pest Control Unit

A pest control unit that doubles as a fumigator has recently been introduced by Waring Insect Control Co., San Francisco. The exterminator uses lindane tablets, and disperses the vapors by a 10-watt heating apparatus. The unit comes in three sizes, prices range from \$16.95 for a table model to \$26.95 for a commercial unit. Distributor is Cal-State Products of San Francisco.

Chicago Chem. Exposition

The eighth National Chemical Exposition, sponsored by the Chicago section of the American Chemical Society, will be held in that city, Oct. 12-15, 1954, it was announced recently. Dr. T. U. Marron, chemical research supervisor of A. B. Dick Co., Chicago, has been named chairman.

Meta-Phenols in Tank Cars

A new product, known as "Meta-Phenols 220," is now available in tank-car quantities, according to a recent announcement by Carbide and Carbon Chemicals Co., New York. "Meta-Phenols 220," a product of coal hydrogenation, can be used as an intermediate for all types of phenolic resins, particularly surface coatings with soap, alkali, and chemical resistance. It can also be used in phenolic dyestuffs manufacture and in syntheses involving ring substitution on a phenol. Non-ionic surface-active agents and organic and inorganic esters can be made from "Meta-Phenols 220" since the hydroxyl groups react normally.

Gallowhur Names Director

Election of Julius Fleischmann as a director of Gallowhur Chemical Corp., New York, was announced recently by George Gallowhur, president. The Gallowhur company manufactures a line of chemical specialties, including agricultural and industrial chemicals.

Auto Shampoo and Wax

A one-operation auto shampoo and wax called "Purple Magic" is now available nationally, according to a recent announcement by Choldun Manufacturing Corp., New York. The

product was previously marketed through service stations and professional auto washers only. Two bottle-caps of the solution, dissolved into a bucket of water is the recommended dilution for car cleaning. An eight-ounce bottle retails for about \$1.00.

New Koppers Sales Office

Establishment of a new Atlanta sales office and appointment of Leo J. Diamond as manager have recently been announced by C. H. Pottenger, sales manager of the chemical division of Koppers Co., of Pittsburgh. The new southern district sales office is in Room 1029 of the Healey Building in Atlanta. Territories serviced from this office include Texas, Oklahoma, Arkansas, Mississippi, North and South Carolina, Tennessee, Florida, Alabama, Georgia, and Louisiana. Mr. Diamond was formerly a sales representative for the division working out of the New England district sales office.

Super Cel Names Minthorne

Appointment of Keith Minthorne as sales manager of the Super Cel Sponge division has recently been announced by Arthur J. Sloss, president of American Sponge & Chamois Co., New York. The division makes the "Super Cel" line of rayon, cellophane, and cellulose sponges, in oval as well as the regular rectangular shapes. Mr. Minthorne was formerly eastern sales manager of the cellulose sponge division of Burgess Sponge Co., prior to which he was assistant sales manager of O-Cel-O Sponge Co., Buffalo.

Rubber Floor Care Folder

Information on approved methods of maintaining rubber floors is contained in a new folder published recently by the Rubber Flooring division of the Rubber Manufacturers Association, New York. The folder gives detailed instructions on how to clean and wax rubber floors and includes lists of cleaners and waxes which have been tested and found to meet specifications set up by the association. The folder is available upon request to the association at 444 Madison Ave., New York.

New Linde Silicone Plant

Plans for construction of a chemical plant near Long Reach in Tyler County, W. Va., were announced recently by Linde Air Products Co., a division of Union Carbide and Carbon Co., New York. The cost of the new plant will be approximately \$13,000,000. It will be used for the manufacture of silicones, which are used in automobile polishes and other products. Options have been acquired on 1,400 acres of land between St. Mary's and Sistersville in the Long Reach area. Ground will be broken as soon as purchase of the site is completed.

Dieldrin in New Form

A new granular form of its insecticide, dieldrin, has recently been announced by Shell Chemical Corp., New York. In its new form, the pesticide has the consistency of very fine sand, consequently falling to the soil without clinging to foliage when it is applied. Following application, the treated area should be thoroughly drenched with water to help carry the material below ground to kill sub-surface pests. A five percent granular dieldrin formulation is applied at the rate of one pound per 725 square feet for turf insect control. In Florida dosage rates are slightly higher.

Nyotex Names Mitchell

Appointment of C. W. Mitchell as executive vice-president of Nyotex Chemical Co., Houston, has recently been announced by G. L. Bond, president of Consolidated Chemical Industries Inc. Nyotex is a mutually owned subsidiary of Consolidated Chemical Industries Inc., Stauffer Chemical Co., and Harshaw Chemical Co. Mr. Mitchell spent 17 years with the Missouri Pacific Railroad and has been with Consolidated Chemical for 24 years. He was vice-president of Nyotex prior to his appointment.

D&O President in Europe

John L. Cassullo, president of Dodge & Olcott, Inc., New York, left recently for a brief business trip to Europe. Mr. Cassullo's itinerary includes both France and Italy.

*An H&D
idea for
you*



Protects, identifies, displays, sells, dispenses, this H & D patented Duplex box slices dollars off packaging costs and builds dealer goodwill. Get full measure from your next shipping box — send for booklet "Pack To Attract." — Hinde & Dauch, Sandusky 17, Ohio.

H&D

HINDE & DAUCH

17 MILLS AND FACTORIES • 40 SALES OFFICES

Our 65th Year

Simoniz Names Davis

John D. Davis, formerly with Procter & Gamble Co., Cincinnati, has been appointed brand advertising manager, Simoniz Co., Chicago, announced recently.

Jobbing

(From Page 53)

are not popular in tropical countries because of the deterioration caused by termites, other insects and atmospheric conditions. Terrazzo, marble, ceramic tile, asphalt and rubber tile are preferred. Knowing the type of floor the customer has, Mendez can supply the floor cleaner, together with the waxes and other supplies if they are needed at the moment, although the customer pays the workman for his services.

Everything is sold on open account, with comparatively no cash transactions. Credit is given on the usual terms of 30 or 60 days or any other future time designated.

Deliveries are made in the San Juan metropolitan area by the company's two 2-ton trucks; with the rest of the island served by the Puerto Rican Express or railroad cargo.

Letters

(From Page 41)

structive program which could be in the interest of public health, they have condemned the use of vaporizers which has obviously encouraged the bootlegging of vaporizers directly to the user and consequently has invited units which have not been submitted nor meet with existing regulations.

You should certainly find it interesting and helpful to all concerned to invite both the pro and con factions to submit for publication any data that they have available relative to the dangers involved when lindane vaporizers are used.

C. E. White, Sales Manager
Vapor Chemical Co.
Rives Junction, Michigan

* * *

Our policy has been to publish factual articles dealing with the development of new methods of insect control. We have been criticized for publishing articles and editorials on the subject of vaporizers. Answers to these editorials, or comments on articles have been expressed freely and frequently in the letters page of SOAP. Ed.

Index to ADVERTISERS

Amaza Laboratories, Inc.	176	Hercules Powder Co.	38, 56, 104	Pennsylvania Industrial Chemical Corp.	105
American Standard Mfg. Co.	156	Hinde & Dauch	182	Perl Machine Mfg. Co.	172
A. M. R. Chemical Co.	158	Hochstadter Laboratories, Inc.	173	Per-Mo Products Co.	183
Andersen, Carl N.	173	Hollingshead Corp., R. M.	24	Perrow Chemical Co.	176
Arizona Chemical Co.	13	Hooker Electrochemical Co.	22	Perry Bros., Inc.	158
Armour & Co.	14	Houchin Machinery Co.	80	Petrolite Corp.	154
Aromatic Products, Inc.	82	Hudson Laboratories, Inc.	173	Philadelphia Quartz Co.	62
Atlantic Refining Co.	23	Hysan Products Co.	7	Polaks Frutal Works	168
Atlas Powder Co.	33	International Minerals & Chemical Corp.	32	Polis Mfg. Co., J. D.	180
Baird & McGuire, Inc.	128	Kinetic Chemicals Division	111	Prentiss Drug & Chemical Co.	110
Bersworth Chemical Co.	96	Kleenaire Kemikels	172	Procter & Gamble	19
Blockson Chemical Co.	9	Kranich Soap Co.	8	Proctor & Schwartz, Inc.	94
Bobrick Mfg. Co.	142	Knolar Products, Inc.	8	Pylam Products Co.	172
Breuer Electric Mfg. Co.	112	Koppers Co.	100	R. C. Can Co.	117
Buffalo Electro-Chemical Co.	11	Kurly Kate Corp.	178	Rohm & Haas Co.	108
Bush & Co., W. J.	98	Lancaster, Allwine & Rommel	173	Roure-Dupont, Inc.	58
California Spray-Chemical Co.	114	Leeben Chemical Co.	178	Seil, Putt & Rusby, Inc.	166, 173
Candy & Co.	4	Lehmann Co., J. M.	90	Shanco Plastics & Chemicals, Inc.	168
Chemical Service of Baltimore	113	Lewers, William W.	173	Snell, Inc., Foster D.	173, 178
Chemical Specialties Manufacturers Association	103	Lueders & Co., Geo.	76	Solvay Process Div., Allied Chemical & Dye Corp.	2nd Cover
Chrystal Co., Charles B.	168	Mach Chemical Co.	166	Solvents & Chemicals Group, The	160
Commercial Solvents Corp.	28	Magnus, Mabee & Reynard, Inc.	122	Stepan Chemical Co.	84
Continental Filling Corp.	107	Mantrose Corp.	150	Stern Can Co.	180
Cowles Chemical Co.	64	Maryland Glass Co.	Face 18	Sterwin Chemical Co.	148
Cox, Alvin J.	173	McCutcheon, J. W.	162, 173	Stillwell & Gladding	175
Crown Can Co.	127	McDonnell, C. C.	173	Tamms Industries, Inc.	170
Davies-Young Soap Co.	70	McLaughlin Gormley King Co.	138	Tex-ite Products	175
Diamond Alkali Co.	119	Meccaniche Moderne	88	Thompson, Jr., Friar	175
Diehl & Co., William	172	Molnar Laboratories	173	Thomssen, E. G.	175
Dill Manufacturing Co.	146	Monsanto Chemical Co.	16, 17, 125	Tombarel Products Co.	94
Dodge & Olcott, Inc.	120	Moore Brothers Co.	164	Trio Chemical Works	162
Dow Chemical Co.	12	National Aniline Division	15	Turner & Co., Joseph	60
Dreyer, Inc., P. R.	10	National Soap Dispenser Co.	170	Ultra Chemical Works	121
du Pont de Nemours & Co., E. I.	Face 19, 59	Naugatuck Chemicals Div.	31	Ungerer & Co.	3rd Cover
Dura Commodities, Inc.	164	Neuman, Buslee & Wolfe, Inc.	166	Union Standard Equipment Co.	177
Emery Industries, Inc.	20	Newman Tallow & Soap Machinery Co.	174	Universal Detergents, Inc.	92
Ertel Engineering Corp.	180	Newport Industries, Inc.	100	Universal Electric Products Corp.	166
Ethyl Corp.	126	Niagara Alkali Co.	25	U. S. Bottlers Machinery Co.	98
Federal Varnish Div.	115	Norda Essential Oil & Chemical Co.	21	U. S. Industrial Chemicals, Inc.	4th Cover
Felton Chemical Co.	105	O'Donnell, James P.	173	Van Ameringen-Haebler, Inc.	34, 144
Filtrol Corp.	86	Oil Equipment Laboratories, Inc.	140	Varley & Sons, James	74
Fritzsche Brothers, Inc.	136	Old Empire Mfg. Chemists	178	Verona Chemical Co.	6
Fuld Brothers, Inc.	3	Onyx Oil & Chemical Co.	30	Washburn Co., T. F.	18, 176
Gair Co., Robert	92	Oronite Chemical Co.	35	Welch, Holme & Clark Co.	68
Gesell Co., R.	168	Owens-Illinois Glass Co.	57	Westvaco Chemical Division	27
Gillespie-Rogers-Pyatt Co.	118	Packwood Mfg. Co., G. H.	109	Windsor Wax Co.	156
Givaudan-Delawanna, Inc.	66, 176	Peck's Products Co.	29	Wurster & Sanger, Inc.	170, 175
Gross & Co., A.	79	Penick & Co., S. B.	152	Wyandotte Chemical Co.	96
Hardesty Co., W. C.	72			Zinsser & Co., William	123



All products shipped in bulk or packaged for resale.

STOP FIRES FROM SPREADING WITH PER-MO FLAMEPROOF LIQUID

A SCIENTIFIC, LABORATORY PROVEN AND TESTED PRODUCT

Check these outstanding features . . .

- ✓ Has been approved by Fire Prevention Division of K. C., Mo. Fire Department.
- ✓ Will flameproof all absorptive fabrics.
- ✓ Will not damage any fabric that is not damaged by water.
- ✓ Will not stiffen fabrics and will not affect color of most dyestuffs.
- ✓ Flameproof treatment is not removed by common dry-cleaning solvents.
- ✓ Can be used as a brush, spray or rinse.

OTHER PER-MO PRODUCTS . . .

- Mothproof Liquid (5 year guaranteed)
- Warfarin for Rats and Mice
- Rat and Mice Liquid
- Red Squill Rat Paste
- Red Squill Rat Bits
- Antu Rat Paste
- "Chek" Deodorant



WRITE TODAY FOR FULL DETAILS!

PER-MO PRODUCTS CO. — 3602-04 WOODLAND — KANSAS CITY, MO.

Tale Ends

A TERMITE colony thriving on the 12th floor of a downtown office building in Memphis, Tenn.! But, gentle reader, these are educated termites, according to Bill Hill, head of the Hill-Smith Termite Control Co. of that city. Although Myron W. Smith, the other partner in the termite firm says their pet termites would turn up their noses at the wood of the office building trim and floors, the building management played it safe by demanding Hill-Smith cover any potential damage with a \$1,000,000 "termite security bond." The firm builds termite protection into new buildings as well as old and their trained bugs are used for research in such work. Thus far, no termite in their colony has been unearthed, according to Bill Smith, which can sing or play a musical instrument. In fact, only very few can read or write.

Among the nation's top 100 newspaper advertisers in 1952, there were some notable changes in the case of marketers of soaps, detergents, floor waxes and other chemical specialties. P & G, second on the list in 1951 with 14 million dropped under 8 million dollars spent in 1952. Lever jumped to No. 2 spot in '52 right behind General Motors, spending almost 13 million; C-P-P upped to No. 3 with 12 plus million. Beacon Wax was top floor wax advertiser, up 56.8 per cent with over a million in '52. Johnson waxes dropped 39.4 per cent to just under one million. American Home was down 28 per cent to two million; Simoniz up 25 per cent almost to a million; Armour down 13 per cent to just under two million; Mennen up 175 per cent to \$855,000; Clorox up 18 per cent to \$852,000. No matter how you look at it, it's a lot of dough!

Lifebuoy Soap has launched its new "unperfumed" toilet bar as predicted here six months ago. Sort of like walking a tightrope, — getting away as far as possible from the old cresylic "medicinal" odor, but not going over whole-hog to a "sweet" perfumed soap. The idea is to keep as many as possible of the old users who liked the "medicinal" odor by use of a "neutral" odor and deodorant compound, and to go after those who prefer the newer deodorant soaps, but who disliked the aroma of cresylic acid. Still, Lever does not want to alienate its old "locker room customers, but does want to gain back as much business as possible along the lines of Dial, et al. A million bucks plus is going into the new Lifebuoy advertising campaign. It's a trick if they can do it!

If everybody and his Uncle Joe from Timbucktoo to Tiajuana does not know by now that vinyl floors should be waxed for improved appearance and proper protection from wear, then we miss our guess by a country mile. The demand for reprints of Cy Kimball's CSMA report on waxing vinyl floors assumed the

proportions of an avalanche last month when we offered in an editorial to send free copies for distribution. We should have added "as long as our supply of eight thousand lasts." And they didn't last long. We had to turn down the requests of some late comers when the supply ran out. But it was a good publicity job, men, and it should help a lot to shut off a lot of this no-wax-needed baloney.

The television show which features "Racket Squad" picked out what they thought was a wholly fictitious name for a somewhat shady company in one of its recent telecasts. The name they happened to select was "Eastern Industries." Little did they know that this has been a highly reputable and respected name in and around the chemical, oil and soap industries for twenty-odd years or more. Eastern Industries is a division of Joseph Turner & Co., Ridgefield, N. J. Wally Merrill is prez of Turner and Bill Mullin runs the E. I. Division. There is also an Eastern Industries in N. Y. and one in Connecticut, — no connection with the Turner division. Somebody somewhere must have wised up the television outfit for they did some

fast and fancy apologizing in a subsequent telecast.

Ernie Gillam has sold out the Gillam Soap Works at Fort Worth, Tex. and the stormy petrel of the Texas soap business for the past decade has retired to regain his health. The buyers are three Steinbacks, Frank being the new prez and operator of the Gillam business. Sol Steinback is the new v.p. and M. A. Steinback, new secretary, although the latter two are not directly associated with the active management, being engaged in other fields in N. Y. and St. Louis, respectively. The name of the old outfit has been changed to read, Gilliam Soaps & Chemicals, Inc. A lot of people are going to miss "old give 'em hell Gilliam!"

Horatio Alger is not dead like we thought! Recently, the head of Lever Brothers at Port Sunlight in England handed a cheque for 1,000 pounds to a worker in the Lever plant, one William Gray. Two years ago, Mr. Gray made a fifty-word suggestion which he believed would save the company money. The idea was tried out and after a two-year trial was found to work as indicated in Mr. Gray's letter. Now, we assume that Mr. Gray was delighted with his reward for in England 1,000 pounds is a lot of money. Also in the U. S. A.

Results?



"Dat's wat de man said. Jus' put it in any winder anywhere . . ."

WHY dissipate the impact of your advertising by covering the "chemical waterfront" when you really want to reach the chemical **specialty** people, the makers, converters, repackers and distributors of soaps and detergents, cleansers, floor products, aerosols, insecticides, disinfectants, deodorants, janitor and sanitation supplies? If you want concentrated coverage of this market without waste and effective advertising results, take a look at

SOAP and Sanitary Chemicals
254 West 31st St., New York 1

the House of Ungerer



Essential Oils

Terpeneless Oils

Aromatic Chemicals

Oleo Resins

Imitation and True Fruit Flavors



Ungerer & Co.

161 Sixth Ave., New York 13
Plant & Laboratories, Totowa, N. J.
Chicago • Boston • Philadelphia • St. Louis • Atlanta • Los Angeles



U.S.I.'s new ALLETHRIN plant now producing at full rated capacity

More than 15 years of laboratory work in the U. S. Department of Agriculture from 1932 to 1947 led to the successful synthesis of what is now called allethrin. Since 1947, additional research on evaluation of allethrin and production methods led to the construction of U.S.I.'s new plant at Baltimore which has now achieved design capacity production.

Thus, from a difficult recipe for an entirely new compound which requires 18 complex production steps, the research and engineering forces of U.S.I. have produced allethrin in sufficient quantities to fulfill industry's foreseeable requirements.

Through a maze of some 130 reactors, receivers and holding tanks, more than 9½ miles of pipelines connecting the numerous units, and more than 100 controlling and recording instruments, nearly a million pounds of chemicals—solids, liquids and gases—are handled per month. It is the first fully integrated plant to be engineered and constructed for the production of allethrin.

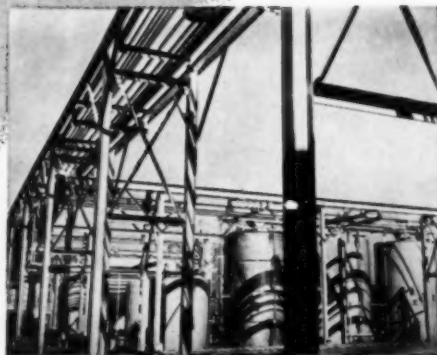
The result is ample supplies of allethrin for formulating more effective and more specific insecticides. Allethrin is an important addition to the nation's supply of low toxicity insecticides and provides a new opportunity for formulators to revise their products to meet more exactly the needs of their customers.

Get the facts about allethrin and its application to your products—write to U.S.I. for full information.

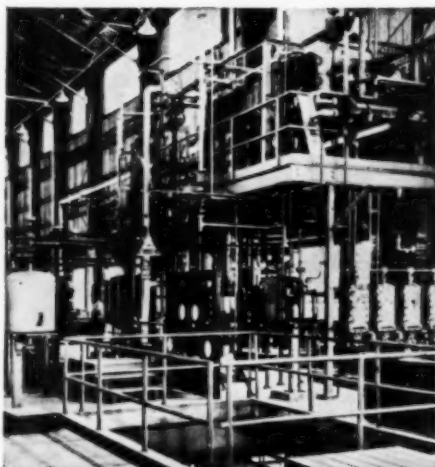


INDUSTRIAL CHEMICALS CO.

Division of National Distillers Products Corporation
120 Broadway, New York 5, N. Y.
Offices in Principal Cities



A view outside the plant shows the many tanks and pipes needed to supply the more than 1,000,000 pounds of chemicals required each month to feed the production line for allethrin manufacture.



The interior view reflects the complexities of allethrin production. The equipment for recovery of solvent is shown above.



Among the first to visit the new plant at full capacity were members of the U.S.D.A. staffs which had first successfully synthesized allethrin, and officials of U.S.I. as their hosts. To these people, the new plant represented the commercial realization of a laboratory dream.

